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Moderation in the Unions

SIGNS of moderation on the subjects of nationalisation and wage increases are apparent in recent pronouncements by leaders of organised labour. In the views on nationalisation approved last week as its official policy by the Economic Committee of the Trades Union Congress emphasis is laid on the importance of full inquiries and complete planning before further nationalisation is embarked on. The T.U.C. has not abandoned nationalisation as a principle, but its caution compares well with the precipitation shown a month ago by the National Executive of the Labour Party, which in its policy statement, "Challenge to Britain," advocated, amongst other things, nationalisation of a number of key machine tool firms and re-nationalisation of the steel industry and of road haulage to the extent necessary to achieve a "co-ordinated transport system." Such action, largely because it would disturb industries of vital importance which now are efficiently run, apart from any other reasons against nationalisation, would have unfortunate consequences for the national economy. The railways, for which a prolonged period of freedom from political interference is essential to enable them to settle down and solve their problems in the new order established by the Transport Act, yet still under State ownership, are relatively safe from the political action threatened. Moderation also has been shown as to wage increases, by Mr. Arthur Deakin, General Secretary of the Transport & General Workers' Union, who last week at the union conference affirmed his belief in wages restraint. The basis of the policy in this case is largely opposition to increases for craft union members which by increasing production costs would secure only an illusory advantage in wage increases. He did, however, stress the advantages that flow from increased productivity and efficiency, which are shared by all in the industry. It is a pity that Mr. Deakin's views are not shared by the leaders of the Confederation of Shipbuilding & Engineering Unions, who earlier this week presented a claim for a 15 per cent increase in the wages of all adult male workers in the engineering industry and by those of the three railway unions which three weeks ago lodged claims for wage increases; these if granted in full would result in "advantages" that would seriously damage the national economy and soon prove themselves illusory to the railwaymen concerned by increasing transport costs and the cost of living.

Exchange of Research Results

SCIENTIFIC progress has always rested on a basis of the exchange of ideas and information. When a research organisation was established by the British Transport Commission, a central establishment was set up to co-ordinate the work of the different Executives, because it happens so often that investigations undertaken for a specific problem in one form of transport may prove to hold the nucleus of an answer to the difficulties of another. Lord Hurcomb stressed this necessary interchange of ideas when opening the new Hydraulics Research Laboratory of the British Transport Commission at Southall last Friday, to which we refer elsewhere this week. He quoted as an example the possible use of radar in marshalling yards, where the ability to observe occupancy of sidings in fog might be found as valuable as the detection of obstructions by this means has already proved to shipping. One of the demonstrations on Friday was of particular interest to railway shipping services. This was a method of calming water at harbour entrances by the injection of compressed air bubbles, a method already tried experimentally at the entrance to the Dover train ferry dock. Laboratory facilities will permit investigation of this effect, the causes of which are not yet fully understood. It clearly has important possibilities for harbours such as those of the Channel ports.

Taking Over the G.N.R.(I)

THE joint board to control the Great Northern Railway (Ireland) will take up its duties on September 1, by agreement between the Northern Ireland Minister of Commerce and the Minister for Industry & Commerce in Dublin. The company is required to distribute the purchase money of £4,500,000, which the two Governments are contributing in equal shares, to the shareholders within two months of this date. Debenture stock will be repaid at £89 2s. 6d. per £100; guaranteed at £66; preference at £35; and ordinary at £28 10s. Each Minister will appoint five members to the Board, and Mr. G. B. Howden, Chairman of the Ulster Transport Authority, is expected to be the senior representative from the North. The senior member of either half of the Board will be its chairman in alternate years. The Great Northern company will have completed an existence of more than three-quarters of a century, but it may be assumed that the title Great Northern will be perpetuated.

Publicising East African Efforts

THE East African Railways & Harbours are bringing out a scheme of advertisements in the East African Press which aim to tell the public simply and graphically about the strenuous efforts being made by the administration to keep traffic moving and encourage the rapid economic

development of the three territories. Major works projected and in progress, including additional deep-water berths and extension and improvement of lines, and motive power and rolling stock orders are featured. One advertisement, for example, stresses the vital contribution made by Beyer-Garratts in enabling longer trains and heavier loads over light rails to be operated. The fine performances of these locomotives, incidentally, are referred to in a recent issue of the *E.A.R. & H. Magazine*, which gives the average miles run in March for one class as 8,271, and this over a section with a speed limit of 40 m.p.h. The advertising campaign should help to still ill-informed criticism of the administration by giving the public a better understanding of its achievements in spite of considerable difficulties during the last few years.

Overseas Railway Traffics

PERUVIAN CORPORATION traffic receipts for June at 9,388,000 soles and 27,364,000 bolivianos show increases of 27,000 and 10,807,000 respectively over the corresponding figure for 1952. The aggregate for the twelve months to June 30 is 111,271,000 soles and 212,231,000 bolivianos, or increases over the previous year of 9,898,000 and 14,583,000 respectively. The remittance rate for the Peruvian sole has remained fairly steady at about 43-44 to the £; but Bolivian currency was devalued on May 15 last from 169·61 to 537·08 to the £, and rates for Bolivia-Peru international traffic were increased as from June 15 by way of compensation for the devaluation of boliviano receipts. Taltal Railway receipts for June were $3,098,000, against $2,062,000 for June of last year; the aggregate for the twelve months to June 30 is $32,883,000, an increase of some 17 per cent. over the preceding twelve months. No explanation so far is forthcoming for the most recent rise in traffic receipts. Barsi Light Railway receipts for May were, at Rs. 13 to the £, £30,540, a slight increase over the previous year; but the total for April and May, the first two months of the new financial year, shows a decrease of £4,600 against that period of 1952.

Good Running on the East Coast Main Line

A RECENT trip on the down "Elizabethan," non-stop over the Eastern, North Eastern, and Scottish Regions from Kings Cross to Edinburgh, was a stimulating experience. Apart from one or two distant signals kept "on" at the approach to temporary permanent way restrictions, and a double yellow north of Retford, which cleared almost as soon as it was sighted, not one adverse signal was sighted over the entire distance of nearly 393 miles. This was the more notable because of the dense traffic through such centres as Peterborough, Doncaster, York, and Newcastle, where the unending succession of signals at clear showed the care taken to give this train an uninterrupted run. During several hours spent with the two engine crews on the footplate, we gained an impression of the continued competence of the Gresley "A4" Pacifics; the boiler of our "A4" was steaming perfectly throughout the journey. The booked time is 405 min., so that an arrival 6½ min. early after easy recoveries from all the permanent way slowings meant a mile-a-minute average for this 400-ton train at no more than 15 per cent cut-off many miles of the journey. On arrival the engine was perfectly cool in every bearing. An appropriate sequel was a return by the heavy all-sleeping-car "Night Scotsman", which despite fairly thick mist in the outer suburbs ran into Kings Cross 9 min. ahead of time.

"Siesta" Coaches in U.S.A.

WHILE some of the latest United States first class sleeping cars still incorporate a certain proportion of the old convertible sections, as well as double bedrooms and small individual rooms of the roomette type, the first move has been made towards providing individual sleeping rooms for "coach" or third class passengers. Hitherto the best lower class accommodation—apart from a few "tourist" sleeping cars in transcontinental trains—has been in reclining chair cars, which, though they allow the passenger to assume a recumbent position for the night, afford no privacy. Now, just as British Railways have begun to provide more privacy in sleeping accommodation for third class passengers in two-berth compartments, an American sleeping car has been designed to provide "coach" passengers with single sleeping rooms with individual washing and lavatory accommodation, and convertible by day into single-seat compartments. Some details are given on another page. By ingenuity in planning, including beds which fold into compartment walls when not in use, and the dovetailing made possible by arranging the compartments on two levels, 40 single rooms, 20 on either side of the central aisle, can be arranged in a car of the standard 85 ft. length.

Manganese Steel for Crossing Work

IN view of the extensive use of manganese steel for railway trackwork, an opportunity of visiting the works of a firm specialising in its manufacture is particularly welcome to members of the Permanent Way Institution. Last Saturday, a party from the Manchester & Liverpool Section of the Institution were the guests of Edgar Allen & Co. Ltd. at the Imperial Steel Works, Sheffield. The morning was spent in the workshops, where point and crossing work in cast and rolled manganese steel for British and overseas railways was in course of manufacture. Of particular interest were the partly assembled components for a complicated layout to carry heavy electrified suburban traffic at the approach to Waterloo Station, Southern Region. During the afternoon, the party visited the foundry, in which valuable pioneer work in the development of special types of steel has been carried out. Associated with the foundry is the laboratory, equipped with X-ray apparatus and radio-active elements of cobalt for testing specimens of steel. The examination in the laboratory of new types of casting helps in the development of foundry technique for point and crossing work.

Cape Western Electrification, S.A.R.

IT is hoped in November this year to complete the electrification of the South African Railways Cape Western main line between Cape Town and Touws River, which is already electrified as far as Worcester. The opening of the Bellville-Worcester section (with the Stellenbosch loop) on April 8 this year was recorded in our May 22 issue. This accounts for 123 route-miles, to which the extension from Worcester to Touws River will add a further 52 miles. When the work is completed the timing of fast passenger trains from Cape Town to Touws River will be cut from the present 290 min. to 256 min., while in the reverse direction there will be a saving of 44 min. Goods train timings will be reduced by some 2 hr. both ways. Power for this 3,000 V. d.c. scheme is being taken *via* the new distribution system in Cape Province from the recently-completed Hex River power station. The "4E" class 1-Co+Co-1 electric locomotives supplied for the new electrification by the North British Locomotive Co. Ltd., with G.E.C. electrical equipment, are equipped for regenerative braking in all three motor groupings. In planning the fixed installations it has been calculated that practically all regenerated power will be exchanged direct between trains, and the rectifiers are not arranged for reverse operation, in contrast to the practice at some Natal system sub-stations.

Signalling on Swiss Private Lines

WE have from time to time published details of the progress being made in signalling on the State-owned lines in Switzerland, and in the present issue are able to illustrate what is being done on one of the privately-owned systems, whose forward policy in this matter is being pursued by some others. It is interesting to note that it was

on the privately-owned Lötschberg line that the first power interlocking in Switzerland was installed, at Spiez in 1914. This was electro-pneumatic, using low-pressure air, and it is, we understand, still in service. In the same year the remaining semaphores on that railway were arranged to be operated electrically by solenoid mechanisms, controlled from circuit-breakers on the levers in the mechanical signal frames. Since 1938, except for certain alterations and extensions to existing apparatus, all Swiss interlocking installations have been of the power type, and since 1929 colour-light signals have been superseding all earlier types and there are now very many at work. The equipment on the South-Eastern Railway presents several interesting features, including axle-counting control over the block on twelve single-line sections of the system, and may be regarded as typical of the latest Swiss practice in signal engineering.

New South Wales Diesels

PERHAPS the most notable feature of the 1,000 h.p. diesel-electric locomotives for New South Wales just completed in Birmingham is their conventionality. They are described on another page. Not a single revolutionary or even novel feature is exhibited; yet the design is extraordinarily well balanced and proportioned and is made up of components of types well tried in railway service. This is as it should be for machines intended for heavy yard duties and the short-distance transfer of long freight trains from one yard to another. The principal advantage of diesel locomotives in such duties is ability to work 24-hr. a day, and to go on doing it. Anything which might reduce that ability is to be deprecated, even if it might result in some fuel economy or other gain, for no other gain can compare with long service hours and low maintenance cost. If there is a feature worth remark in these ten new 80-ton double-bogie units described elsewhere in this issue it is that the mechanical portions were built by Metro-Cammell, the first time that company has built diesel locomotive mechanical parts; but the work put into the locomotives at the Washwood Heath works is to the same high standard as that of the engine and transmission equipment supplied by the other two companies concerned. In the general characteristics the top speed of 57 m.p.h. was chosen so that line service in either passenger or freight duties could be undertaken if needed, though of course drawbar tractive effort at top speed is at a moderate level.

German Locomotive Rebuild

IT seems impossible to set foot in the Fatherland for even quarter of an hour without coming across one of the old 38-class 4-6-0 engines. We have seen them we suppose literally everywhere from Kaldenkirchen to Friedsrichshafen and from Trier to Braunschweig. Of pre-1914 origin, the class comprises 4-6-0 engines of Prussian, Bavarian and Wurttemberg origin, and now has innumerable detail variations. Recently a beginning has been made in the rebuilding of one or two of the Reihe $38^{10, 40}$, of Prussian State Railways origin, as 4-6-4T engines, known as Reihe 78^{10}, by adding what is in effect a four-wheel tender and closing up the cab. All the 5 tons of coal and 3,750 gal. of water are carried in this addendum, which is permanently coupled to the locomotive proper and has a pivot bar with pins below the cab and in the centre of the addendum wheelbase, with the fulcrum at the very front of the "tender" portion. This fulcrum has spring-controlled sideplay of 60 mm. (2·35 in.) per side. As rebuilt the total laden weight is 113 tons, of which 51½ tons is on the coupled wheels; maximum axle load is 17½ tons. Between the rear coupled wheel and the first wheel of the trailing bogie is a distance of 9 ft. 7 in., and the trailing bogie has a wheelbase of 9 ft. 2 in. Total locomotive wheelbase is 46 ft. 1 in. and length over buffers 56 ft. 6 in. The existing two outside cylinders 22·6 in. dia. by 25 in. stroke, 69-in. driving wheels, and 170 lb. per sq. in. boiler pressure are retained.

Passenger Charges Scheme Confirmed

AN Order of the Transport Tribunal dated July 20 has confirmed, with slight modifications of the scales for early morning fares for short journeys, the draft passenger charges scheme submitted by the British Transport Commission on January 5. These modifications are based on the Tribunal's estimate of the prospective deficit of London area services, which at £4·8-£4·9 million a year is between £0·7 and £0·8 million smaller than that put forward by the B.T.C. It was decided after careful consideration that the class of travellers to whom such relief as was possible should be extended comprised those making short-distance early-morning journeys, and accordingly the early-morning fares for journeys of four miles and less will remain unaltered except that the 4-mile early-morning return fare will be increased by 1d. It is felt these exemptions will be of particular benefit to travellers whose journeys involve using two or more services where through bookings are not available, so that in effect they have to bear two or more increases in fares. The whole range of charges involved in the scheme as now approved, to come into operation on August 16, is set out on another page.

The British Transport Commission (Passenger) Charges Scheme, 1953, as now confirmed, provides for increases on London Transport and London Tilbury & Southend line services in ordinary fares, early-morning fares, and rail season tickets. British Railways early-morning fares, and rail seasons will be increased throughout the country as on London Transport services. Day return fares on British Railways in the London area will continue to be exactly twice the corresponding London Transport ordinary single fare, which in the present instance will mean an increase of not more than 2d. on the return journey. When the scheme was submitted it had the object of raising £6·6 million additional revenue a year, of which £6·1 million was to come from passengers within, and £0·5 million from passengers outside the London area. The scheme as confirmed is estimated to raise an additional £5·6 million from London area passengers, the reduction of about £0·5 million being due to the modifications of the early-morning fares proposals already noted. The Tribunal estimates the loss on London Area services at present fares in the "Y" year on which the estimates were based (twelve months beginning in the middle of 1953) at £5 million, and considers that the additional revenue to be provided above this figure is no more than is reasonably necessary to provide for possible errors in the forward estimates and minor contingencies.

The estimate of receipts and expenditure in "Y" year put forward by the London Transport Executive forecast a loss of £4·2 million after contributing £5·5 million to central charges, and this was closely confirmed by the Tribunal's own figure of £4·1 million. There was considerable difficulty in arriving at a similar figure for the London area services of British Railways, but on the data available the Tribunal has reached the conclusion that the deficit figure should be put at between £0·7 and £0·8 million, after contributing £2 million to the central charges of the Commission. During the 23 days' hearing of objections to the scheme various proposals for remedying this state of affairs, with special reference to London Transport as being the more seriously affected, were put forward. Among these were suggestions for attracting traffic by cheap "off-peak" fares made by the London County Council. The Tribunal suggests that for such a proposal to be effective it would be necessary to attract additional passengers to the number of at least one-third of those already travelling. It may be, says the Tribunal, that when the finances of the services have been stabilised, the Commission would be well advised to test by experiment the effect of introducing some form of cheap fares, but it expresses no opinion on this point. It contents itself with saying that nothing emerged at the inquiry to justify the belief that the immediate financial necessities of the services would be relieved by any experiment of this kind.

The association of the Railway Executive with the London Transport Executive in this scheme has resulted in increases in early morning fares and season tickets throughout the country at the same rates as on London

Transport. Considering the relatively small increase in revenue sought from outside London, and the increase of some £4·8 million in British Railways passenger train receipts during 1952, this may well cause dissatisfaction and prejudice the position of the railways in places where they have been keeping their end up successfully against road competition. In the London area the obligation to increase day return fares in conformity with the increase in London Transport ordinary fares cannot escape being compared unfavourably with the policy of quoting special day return fares at low rates which is now being pursued in many provincial areas by the Railway Executive with the object of stimulating traffic.

Central African Developments

THE union of the three territories of Southern Rhodesia, Northern Rhodesia, and Nyasaland in the Central African Federation is expected by the management of the Nyasaland Railways to result in expansion of traffic between Nyasaland and the Rhodesias. During the past two years the export of the Nyasaland maize crop surplus to local requirements has almost doubled. The bulk of this has been moved by rail from either Salima, the northernmost railhead, or from Limbe, in the south of the protectorate, direct to stations in Northern and Southern Rhodesia, over the Nyasaland Railways, then over the Trans-Zambesia Railway through the Portuguese territory of Mozambique to Dondo Junction, not far short of Beira, thence by the Beira Railway to the Southern Rhodesia frontier at Umtali, and so to its destination on the Rhodesia Railways. All these lines are 3-ft. 6-in. gauge. With State ownership of railways so prevalent in the British Commonwealth, it is noteworthy that the system that has and will have so important a part to play in the development of Central Africa is under private ownership, that of Nyasaland Railways Limited, operating in conjunction with its associated company, the Trans-Zambesia Railway Co. Ltd.

Rapid growth of traffic with the Rhodesias has coincided with the placing in service on the Nyasaland Railways of additional motive power and rolling stock. This includes "G" class 2-8-2 type locomotives built by the North British Locomotive Co. Ltd., incorporating certain improvements over the original design which was similar to that of the Nigerian Railway. The goods stock recently delivered is to be supplemented by further vehicles now on order, including 40-ton covered wagons. Through traffic with the Rhodesias will be further facilitated by improving the layout at Dondo Junction, for which a scheme has been drawn up jointly with the Beira Railway.

Continued expansion in most other directions has also taken place during the past year. Completion of the first stage of the Associated Railways (Nyasaland and T.Z.R.) five-year development plan has helped greatly in the handling of goods and passenger traffic. Goods traffic on the Nyasaland and Trans-Zambesia Railways rose 60 per cent between 1949 and 1952 without serious congestion or delays during the past year. Steps have been taken to increase line capacity, as on the T.Z.R., in Mozambique territory, between Inhaminga and Dondo, where new crossing loops have been installed, whilst additional loops are being constructed further north, between Inhaminga and the T.Z.R. bridge over the Zambesi and junction with the Nyasaland Railways. These works are stated to be needed primarily for coal traffic over the T.Z.R. from the Moatize mines, which is expected to reach 300,000 tons a year in the near future. Plans have been prepared for replacement of 41¼-lb. by 60-lb. rail on the Northern Extension of the Nyasaland Railways, which will allow running of heavier locomotives over a section where there has been a marked increase in traffic in the last two years.

To facilitate further development of the centre and north of Nyasaland, an aerial reconnaissance has been carried out for an extension of the railway some 70 miles northwards from Salima to Lilongwe. The scheme for rebuilding and modernisation of the workshops at Limbe has been completed, and the benefits of increased output already are being felt; the facilities now available are believed to be sufficient for all locomotive, carriage, and wagon maintenance and repair work in the foreseeable future.

Operation by the Nyasaland Railways of their steamer services on Lake Nyasa and maintenance of vessels is being greatly helped by the inauguration on March 31 of the floating dock at Monkey Bay, built and erected by Head, Wrightson & Co. Ltd. The idea of a floating dock was originated in 1945 by the late Brigadier James Storar, a Director of Nyasaland Railways Limited and formerly the company's chief mechanical engineer, as an alternative to a slipway, a graving or dry dock being impracticable because of changes in the level of the lake. Harbour facilities at the rail-served lake port of Chipoka have been undertaken by the railway; it is the intention ultimately to divert the main line of the Nyasaland Railways to serve Chipoka harbour, at present reached by a short branch line. The completion of the marine radio network has afforded direct communication between ships, lake ports, the steamer service headquarters at Monkey Bay, and the railway headquarters at Limbe, resulting in more expeditious cargo and passenger services; but the addition of more cargo vessels to deal with growing traffics is under consideration.

Passenger traffic over the Nyasaland Railways has risen some 6 per cent in the past three years, and about 20 per cent on the T.Z.R., largely because of the increased spending power of the African. A new standard in first class travel was set up at the beginning of the year with the introduction of the sleeping cars designed and built by the Gloucester Railway Carriage & Wagon Co. Ltd., and described in our issue of April 24 with other stock for the system supplied by the same firm, including third class sleeping cars, fourth class coaches, and brake vans. Delivery of two Drewry diesel passenger railcars with Fiat engine is expected in time for the 1954 tourist season. Seating will be of aircraft pattern, and buffet facilities will be provided. It is proposed that these railcars shall run between Limbe and Beira in 13 hr., against 22 hr. by ordinary train, and between Limbe and Salima in 7 hr., against 12 hr., and operate a local service between Salima and Chipoka to connect with the lake steamers. The cut in the running time to Beira, with existing accelerated services over the Rhodesia and South African Railways, will reduce the transit time between Limbe to Capetown from five days to four. It is difficult, however, to see what long-distance upper class traffic is to be gained from such accelerations in view of the extensive air services in this part of Africa, which will be accelerated from time to time as technical improvements occur.

The Railways and the St. Lawrence Seaway

THE Canadian railways have adopted a commonsense attitude to the St. Lawrence seaway project. This long-mooted scheme to canalise the St. Lawrence River between Montreal and Kingston, Ontario, so as to allow ocean-going vessels to enter the Great Lakes, seems likely to be realised at last, and tenders may be invited shortly. The Canadian Government decided in 1951 to go ahead with the scheme, irrespective of United States participation, though the opposition in U.S.A. to the associated power project now seems likely to be overcome. Part of the 180-mile streteh of the St. Lawrence affected lies wholly within Canada and part forms the Canada-U.S.A. frontier.

After the first world war, United States interest in the project was stronger than Canadian for the Canadian Government was not particularly disposed to encourage a scheme which might have prejudiced the newly formed Canadian National Railways. In the U.S.A., however, where the capacity of the railways linking the Great Lakes with the Eastern Seaboard was being severely taxed, there was strong Presidential support for it. Since the early 1930s, the position has changed. More United States interests feel themselves threatened by the seaway; the

railways which would be affected, beset by road competition, cannot lightly relinquish any traffic which geography seems to have marked out for their own, and they are also seeking new traffic. New York, reached also by canal and river from Buffalo on Lake Erie, fears that the seaway would result in loss of traffic to Canadian lake and river ports, and the U.S.A. iron and steel industry fears the rise of a competitor in Ontario. Mr. Gregory S. Prince, General Solicitor of the Association of American Railroads, voiced the U.S.A. railways' opposition before the United States Senate Committee on Foreign Relations in April, at hearings of a bill to create a St. Lawrence Seaway Development Corporation, which would build and operate the seaway jointly with a similar Canadian organisation.

The Canadian National and the Canadian Pacific Railways are taking a broad view, which was succinctly put by Mr. Donald Gordon, Chairman & President, Canadian National Railways, in his annual report for 1951. When ocean shipping was able to use the Great Lakes ports, the railways, he said, might lose traffic which now moved by rail because of the limited capacity of the waterways. On the other hand, cheap hydro-electric power allied with rail and water transport in a concentrated area would stimulate industrial development, from which the railways would benefit. There would be a period of readjustment after the completion of the seaway, but it was unlikely that the Canadian National would be permanently affected for the worse. Canadian National facilities would have to be given their proper place in the industrial pattern which would emerge from the completion of the project. From the 1952 report it is evident that preliminary studies were proceeding to that end. The Canadian Minister of Transport, Mr. Lionel Chevrier, has gone further and expressed the view that the seaway will bring new business to the railways.

Railcar Working in France

AT the present time the French National Railways have in stock 824 railcars or railcar-trains, all of which except the few Bugattis and the disappearing Michelines are diesel. They run 174,000 km. (108,000 miles) a day. There are also 206 bogie and 100 four-wheel railcar-trailers as well as 289 ordinary carriages modified to act as railcar trailers. Supplementary to the general S.N.C.F. policy of electrifying principal main lines, the turning over of other passenger services to diesel railcars has been proceeding steadily for years, and, particularly in regard to *omnibus* or stopping trains, the policy of substituting railcars has been clear and definite. In fact, the accepted idea is to eliminate steam traction from 75 to 80 per cent of such services throughout the S.N.C.F., and the studies made show that a total of 1,086 railcars and 827 railcar-trailers will be needed to achieve this and to operate certain fast long-distance interurban services. Already about 180 out of the still-needed 262 railcars are under construction. Operating costs of a 600 h.p. passenger railcar and two trailers is less than half that of a steam locomotive and three coaches; but in general it has been found that to cater with rush-hour or seasonal traffic peaks the railcar stock needs to be 1·4 times the number of vehicles actually in traffic during the normal part of the day; that is, the 0·4 covers vehicles on shed day, laid off for heavy repairs, and in reserve for peak traffics or normal stand-by.

The observations made have shown that in making the railcar of still greater use in providing modern operating methods which will also improve public service and reduce working costs, a more extensive stock of railcar-trailers is needed to cover passenger-traffic overload periods, besides ample stock of railcars as outlined above. As the turn-round of a railcar is twice as quick as that of a steam train, however, and as the number of seats offered are better used, the capital outlay necessary for the construction of a railcar is only half to one-third that of a steam train on the basis of seat-miles. Even taking into account the costs of the increased frequency of service, often up to 50 per cent, which is given when railcars are introduced, railcar working costs are substantially lower than those of steam trains; and they allow a much shorter period for amortisation, so that the most modern stock at any period can be purchased, without the overall costs getting close to those of steam traction. This "modern" aspect is always kept in view on the S.N.C.F., for the results have been that traffic increases have followed the greater speed, lighter atmosphere, wider field of vision, comfortable seats, and absence of smoke and dirt given by the railcar. In other words, the travelling public has shown financially and incontestably that it likes railcars.

U.S.A. Passenger Train Service Deficit

ON April 19 Mr. L. K. Sillcox, Vice-Chairman of the New York Air Brake Company, presented a study of passenger movement since the war to the Salzberg Transportation Conference at Syracuse University, which lies in the beautiful Oonondaga Valley of New York State. Mr. Sillcox entitled his paper "Wheels or Wings" because it discussed competition between railway and road transport, including the ubiquitous private motorcar, and the domestic airlines, which are fostered by the Civil Aeronautics Authority set up in 1938.

By statistics he demonstrated the decreasing share of railways and motorbuses in inter-city passenger miles and the increasing share of the private car and the aeroplane. He pointed out that though there are 48,000 railway stations in the U.S.A. and only 522 airports, the number of passengers in railway parlour and sleeping cars was not much larger than the number of air travellers. The railway total in 1951 was 24,930,000, nearly 10 per cent above 1950; the number of air passengers rose by 30 per cent over 1950 to 22 million in 1951. More than 65 per cent of the passenger flights originated at 22 airports and 34 per cent of the passengers enplaned at New York, Washington, D.C., Chicago, Los Angeles, and San Francisco.

The commercial officers of British Railways may be surprised to know that rail and air rivalry is keen over the 229 miles between New York and Boston and the 226·6 miles between New York and Washington D.C. These mileages are less than the distance between London and Liverpool or Darlington. For a New York to Boston flight, ground time at terminals and flying time amount to 2 hr., 13 min., compared with the fastest railway journey of 4hr. at 57·3 m.p.h. For a New York to Washington air trip 2 hr. 30 min. are required against 3 hr. 35 min. by rail at an average speed of 63·2 m.p.h. Mr. Sillcox argued that methods of costing and pricing handicapped the railways in competing with other agencies, adding "that there is a railway passenger deficit is unquestionable —the only difference of opinion relates to its size."

In 1951, application of the Interstate Commerce Commission formula for determining direct and fully allocated costs resulted in a deficit of $681,000,000 on passenger train service, including the carriage of mail, express, baggage and milk—known as "head-end traffic." On the basis of direct cost, the deficit was $418,000,000, of which $283,000,000 was the loss on carrying passengers. Mr. Sillcox considers that the loss can be reduced if the railways are permitted to discontinue unprofitable trains and to charge compensatory rates for "head-end" business. Modern equipment should also be installed, and improved services run at competitve fare levels. Stress is laid on the need to "provide passenger service meticulously administered" as a potent means of developing freight traffic.

Since we received a copy of "Wheels or Wings," the passenger service deficit for 1952 has been announced as $642,900,000, a decrease of $37,900,000 from 1951. In contrast the freight service surplus was a record at $1,078,000,000, an increase of $97,200,000. The passenger loss absorbed 37·4 per cent of the freight profit last year, compared with 41·9 per cent in 1951. However spectacular up-to-date passenger trains may be, the well-being of the U.S.A. railways depends upon the work done by 1,753,000 serviceable freight wagons, each producing on an average from 900 to 1,000 or more net ton-miles per day according to the season of the year.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Availability of Season Tickets

July 21

SIR,—The reason Mr. Jennings (your issue of July 17) cannot at present travel by alternative routes to Kings Cross is because he does not possess a ticket available by any route to Kings Cross. He has elected to travel *via* Finsbury Park and the Northern City Line.

Should he so wish he can, at no extra cost, be issued with a ticket either *via* Kings Cross, Farringdon, and Moorgate, or *via* Kings Cross and Angel. There would then be full inter-availability to Kings Cross as between Eastern Region steam services and the London Transport Executive line *via* Arsenal.

Alternatively, Mr. Jennings could be issued with a season ticket available by all the routes he has mentioned. The charge for such a ticket would, however, be more than he has previously paid.

Yours faithfully,

M. B. THOMAS,
Public Relations & Publicity Officer

British Railways, Eastern Region,
Marylebone Station, N.W.1

The Harrow Accident

July 17

SIR,—However extraordinary and inevitable the Harrow accident may seem, the fact remains that signals were overrun. There seems to be no evidence of brake failure; what evidence there was showed that no attempt to stop was made until the last moment.

Until they were overrun, there were two "Stop" signals and a cautionary one between the trains. Mr. E. R. B. Roberts, whose letter was published in your July 17 issue, should know that a distant signal warns a driver to slow down on approaching adverse "Stop" signals. Whatever he may mean by "at danger," it does not and cannot give "Stop" indication itself.

He urges that distant signals be made outer homes by making them "Stop" signals—a warning still would be needed—and then in the next paragraph doubts if they would be of any use. He really should make up his mind.

The object of A.T.C. is to draw the driver's attention to the fact that he has arrived at or inadvertently overrun a signal and to apply the brake if he does not take action.

How can a driver apply a brake a mile or more from a signal that he cannot see? A driver can whistle for brakes anywhere required, signal or no signal. He should be prepared to stop before he reaches a signal, not after he has overrun it.

Yours faithfully,

COURTENAY BARRY

The Old Manor, Salisbury

Reorganisation of British Railways

July 18

SIR,—The spirit of your leading editorial note in the July 17 issue cannot be too strongly endorsed, but it is hoped that the implied criticism of the existing functional organisation is not intended to strike too deeply. If you refer to the system whereby full departmental co-ordination is not attained short of Executive level, again one must agree; but some functional organisation there must be.

Organisation has been defined as a collection of inter-dependent parts sharing a common life; further, the need for organisation is said to arise when an undertaking is too big to be controlled by one man. Hence the ideal is to keep the functional segregation relatively low down, under a senior officer intermediate to district and regional levels. Final co-ordination should remain with the C.R.O.

As a working railwayman concerned primarily with traffic matters, I should like to see a lineal division of each proposed independent railway, based on the flow of traffic, as practised on the L.M.R., with divisional general superintendence, subordinate to a C.R.O., as was favoured by the L.N.E.R. Each division would be separated into operating, commercial and motive power departments, which themselves would be subdivided into districts, as at present, though with greater uniformity of boundary between operating and commercial districts. The main non-traffic departments would conform to the same principle.

The local officer, who now must be responsible to a multiplicity of seniors—here is true co-ordination!—would be endowed with the security that comes from the knowledge that he and his immediate superiors share the wise counsel of a known "commanding officer," as removed from a succession of technical chiefs and a remote "general staff."

One perceives a difference of opinion at the top as to the merits of functional and divisional organisation, although we were originally promised the combination of the best of both. Perhaps this Utopia is impossible of achievement; but if the forthcoming decentralisation follows the lines suggested above, we should at least be given an understandable organisation, which would actively encourage all and recreate interest among the rank and file.

Yours faithfully,

PETER COLLINS
Stationmaster

Luffenham, Rutland

Brighter Prospects for U.S.A. Railways

July 16.

SIR,—You may care to have a few facts which were jotted down in an effort to watch the fickle progress of the U.S.A. railways in this year of grace. They began 1953 inauspiciously. In the first 15 weeks, wagon loadings were 4 per cent under 1952 and ton-miles declined in all districts, with the heaviest fall in the east. Ten weeks later, at June 20, wagon loadings numbered 18,111,000, an advance of 222,000, or 1·2 per cent, on last year's figure. Loadings of ore ran at 10 per cent over 1952, but forwardings of coal decreased by 15,600 wagons a week from 1952. The production of bituminous coal was down 11 per cent and overseas coal exports slumped badly. By good luck, the loading of manufactured and miscellaneous goods proceeded at an average rate of 376,400 wagons a week, or 3·3 per cent over 1952.

The rolling stock position was stronger than a year ago. On June 1, the U.S.A. railways owned 1,849,140 wagons. The percentage under repair was 5·1, leaving 1,754,820 wagons available for traffic—nearly 12,000 more than last year. On June 1 the railways owned 15,541 complete diesel locomotives as operated, an increase of 2,086 on June. 1952. Steam engines numbered 13,900 and 637 electric locomotives were in traffic. The number of serviceable diesels was 15,372, or 2,415 more than the number of serviceable steam and electric locomotives. The gap will widen quickly, as on June 1 orders were out for seven new steam locomotives, ten new electrics and 665 diesel units.

In the meantime, lines well equipped with diesels report lower operating ratios. The Southern Railway, which worked its last steam freight train in June, had an operating ratio of 65·6 per cent for the four months to April this year against 72·9 per cent for the same period of 1952. The Southern cut its operating expenses by 6 per cent compared with a reduction of about 1 per cent for all U.S.A. class I railways. At that rate its diesel fleet, said to have cost $123,000,000, should soon pay for itself.

Yours faithfully,

R. BELL.

Frognal, N.W.3

THE SCRAP HEAP

Up the Spout

A correspondent recalls some of the lighter moments of joint inquiries into mishaps, caused by witnesses using local nicknames for features of railway topography. One reply given by a shunter to a Ministry of Transport inspector in describing a movement, ran, "Well, sir, we went up the Teapot, down the Coffeepot, and out through Alley Sloper." The paraphrasing of evidence for publication in the official report is an evident necessity, although entailing some sacrifice of the picturesque.

Pioneer Passengers

A century and a half ago Sir Benjamin Hall, who gave his name to London's Big Ben, built a railway line in the Sirhowy Valley, Monmouthshire, serving Markham Colliery. During the 150 years of its existence no passenger trains ran there.

But on July 11 the moss-encrusted sleepers of Hall's Road were awakened, not by the familiar "clang-clang-clang" of freight trains, but by the "biddley-bonk, biddley-bonk" of passenger coaches.

A trainload of 150 railway enthusiasts from the Midlands chartered two coaches and a small tank locomotive to take them on a tour of the forgotten railway lines of Monmouthshire stretching north into Breconshire.—*From the "News Chronicle."*

Passenger Comfort in East Africa

The contrast between the new African-built restaurant car for the Kenya-Uganda Section of East African Railways & Harbours illustrated on page 709 of our June 19 issue, and Uganda Railway passenger stock over 50 years old is emphasised by a correspondent. He has sent the photograph reproduced below, of an upper class composite still in use between Kampala and Namasagali. This is one of three built in 1898 or 1899; their average weight is 6.67 tons and they seat twelve first and twelve second class passengers on a couch-like seat along both sides; the first class section also contains a lavatory.

Out of the Strong . . .

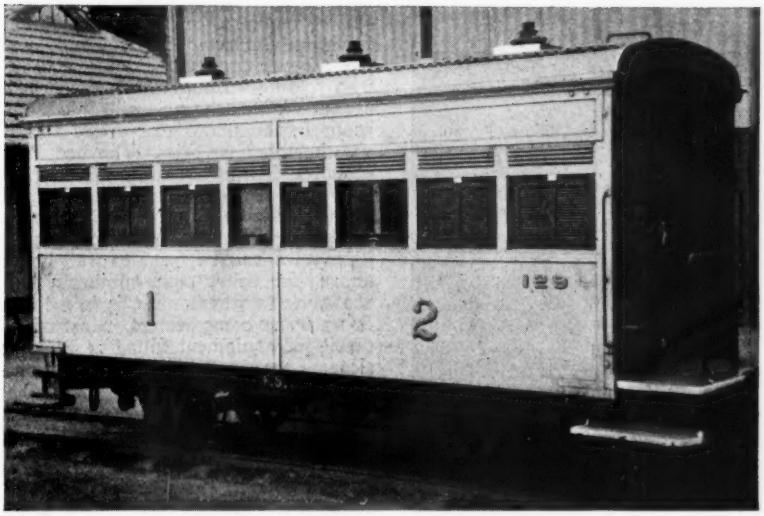
Sixty thousand bees from the Royal garden at Buckingham Palace and the Royal parks have produced a record crop of honey from a single hive on the roof of Waterloo Station, Southern Region. The owner of the hive, Mr. Wilfred Green, has been keeping bees for 25 years.

Highland Travel

Having spent about 29 of the last 36 hours on trains of one kind or another we feel in a kind of railway mood. The trains on which we travelled were, on the whole, leisurely. A rate of 25 m.p.h. may irritate some, but we find that that is about the right speed if the scenery is worth seeing. At one point on our journey we happened to be looking at a terrifying article on interplanetary flight. It was very consoling to bear in mind the fact that one was travelling on a route where the speed has not increased in at least 30 years. . . .

Railway people in the North are very kind. Before we went to bed at Inverness we thought we would like to signal a message of thanks to a railwayman at a little station who had been very helpful to us.

We were then directed to the control room, with its track profiles and little cards. . . . The duty controller called up, through his panel, the man we wanted, and we spoke a few words to him. We were sorry to hear that we had got him out of bed.—*From "A Scotsman's Log" in "The Scotsman."*



Upper class composite built at the end of the last century for the Uganda Railway. The weight is under seven tons; accommodation is provided for twelve first and twelve second class passengers

Publicity in the Post

One of series of coloured labels attached to correspondence by the City of Oxford Motor Services Limited

Red Carpet: Second Class Travel

In readiness for the arrival in Rome of Queen Salote of Tonga, a red carpet had been placed on the platform and the train drew up with a second class coach opposite the carpet. A diplomatist present who had been in Russia, said: "If a Russian engine driver had made this mistake he would probably be shot."

The carpet, however, had been correctly placed. The ordinary passengers alighted from the second class coach, and then, smiling, came the Queen of Tonga.

Parlous Progress

(*A man was recently fined £4 2s. 0d. for travelling from Shrewsbury to Hereford on the buffers.*)

Now this is the tale of a curious male,
Who, so certain papers record,
Proceeded one day, in an odd sort of way,
From Shrewsbury to Hereford.

A nice cosy ride, in safety inside,
Was his, just for paying his fare;
Instead he set out to travel for nowt
In discomfort extremely rare.

In fact the duffer be-straddled a buffer,
Which most unconventional line
Soon earned him a short presentation at court
And a pretty substantial fine.

Yes, the usual fate of the buffer state
Befell him, for they had to sue,
And, instead of a mere seven and sevenpence, I hear,
They stung him for £4 2s. 0d.

The moral is plain—when you travel by train,
Shun conduct erratic and rum;
Far better to pay than to land up one day
In court or in Kingdom Come.

A. B.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

WESTERN AUSTRALIA

New "FD" Type Vans

The Commonwealth Engineering Co. Ltd. is now delivering at the rate of ten a week the 1,000 "FD" type louvred vans which it is building for the railways. The handing over of the first van to be delivered was illustrated in our issue of last week.

The van is built on a standard 18 ft. underframe to carry a load of 18 tons 3 cwt. on heavy-rail lines and of 12 tons 3 cwt. on those with light rail. The tare is 7 tons 17 cwt. Inside measurements are 17 ft. 7 in. long and 7 ft. 4½ in. wide.

EAST AFRICA

Additional Stations Opened

Five new stations have been opened recently, four in Kenya and one on the Tanganyika Central Line. Their names, with English meanings in parentheses, are: Nzai (in memory of the late W. V. Thompson, a pioneer settler whose property bore this name, a Kamba word meaning zebra); Kikumbulyu (name of Kamba location); Mbuinzau (Kamba word for a white goat); Ilkek (Masai word meaning plain of dead trees); and Kwala (meaning unknown).

Western Uganda Extension

The 45-mile extension from Kampala to Mityana is to be opened on August 1. There are two intermediate stations, Bujuko and Kawolongojo, which are 18 and 32 miles respectively from Kampala.

Beyond Mityana, convict and ordinary labour gangs, totalling some 2,000 men in strength, are distributed as far as Kasese. Two large contracts are in full operation along the Katonga River Valley and on the Lake George Escarpment. The line will eventually be carried forward to a terminus at the foot of Ruwenzori, 209 miles from Kampala.

CANADA

Conveyance of Road Trailers

Both the Canadian National and Canadian Pacific are operating a service between Montreal and Toronto in which their own road trailers are conveyed on railway flat wagons. As common carriers they may be prepared to adopt the system which is coming into use in the United States whereby privately-owned trailers are conveyed, though they have not so far been approached by hauliers for a specific haulage rate or a general contract rate. The specially designed Canadian flat wagons are end loaded, but in the United States side loading is being experimented with.

C.P.R. "Will Call" Reservation Method

A method of making train reservations by telephone and picking them up later has been put into operation by the Canadian Pacific Railway passenger department. It saves time and eliminates queueing for a reservation clerk to draw up an itinerary and make out accommodation tickets; the new "will call" service is available in Montreal at either the Windsor Station travel bureau or the City Ticket Office in St. James St. West.

A passenger in Montreal wishing to travel, say, to Vancouver with break of journey at Winnipeg and Banff, simply telephones either ticket office and gives the reservation agent the information required for the itinerary and sleeping car booking. Then, at a convenient time, perhaps two hours later or next day, the passenger calls at the ticket office where his tickets await him, and pays for them.

The "will call" plan has proved highly efficient when C.P.R. passengers have had to undertake long or complicated journeys.

UNITED STATES

Sleeping Car for "Coach" Passengers

A new type of sleeping car, designed for the use of "coach" or third class passengers, who have never before enjoyed such facilities in the U.S.A., has been designed by the Budd Company. A full-size model of a portion of such a car recently has been on exhibition in Chicago. The "Siesta" car, as it is called, is of the standard 85 ft. length, with central vestibule, 2 ft. wide, on either side of which are arranged 20 small rooms.

Though the nominal length of a room is no more than 3 ft. 9 in., by arranging the rooms in pairs on two levels, one 2 ft. above the other, and dovetailing each room into its neighbour, it has been possible to incorporate in each room a bed 6 ft. long by 2 ft. wide, whose frame is in two parts which fold into the compartment walls when out of use in the daytime. During the day the accommodation consists of a comfortable chair with arms, upholstered in foam rubber.

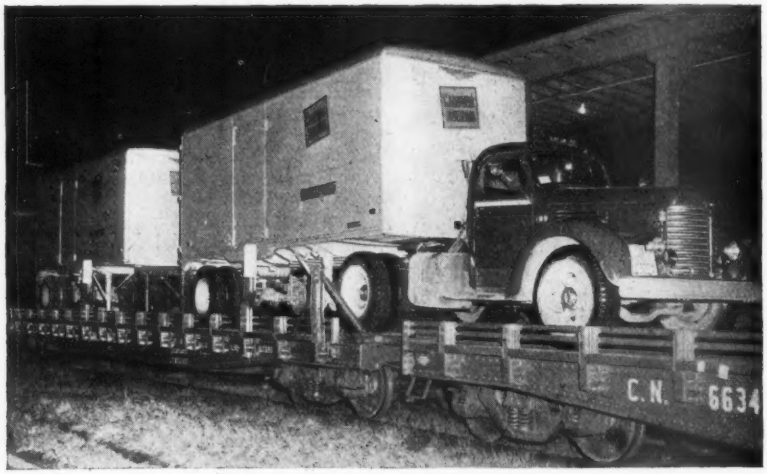
Each compartment is provided with its own lavatory, which is normally covered up and provides an additional seat if required, or a step up to the berth in the upper compartment of each pair; every compartment also has its own folding washbasin. When the beds are made up, there is still plenty of room left to undress or dress, and to use the toilet facilities. The bed linen is stored in the boot into which each bed folds when out of use. Special cribs, providing comfort and complete safety for a small child travelling with its mother, can be fixed to wall hooks above or below the mother's bed, according to whether she is in a lower or an upper compartment. Most of the details of equipment found in Pullman sleepers are available also in this notable new type of car, which already has won enthusiastic approval.

FRANCE

Reorganising Freight Transport

The reorganisation of freight transport now being carried out has reduced the number of wagons in service to 100,000 fewer than in 1938, although the traffic has increased by 50 per cent.

Door-to-Door Transport in Canada



The Canadian National Railways "trailers-on-flats" service, introduced on January 1 as an additional merchandise traffic facility, provides for loading of complete road transport units including tractors

The formation of large marshalling yards interconnected by heavy trains enables neighbouring yards of less importance to be closed or reduced in size. Thus the formation of the yard at Gevrey near Dijon was followed by the closing of yards at Is-sur-Tille and Chagny and reducing activity at Les Laumes, Dôle, Ambérieu and Montelimar. The consequent economy is fr. 427,000,000 a year and a reduction of 335 employees. The yard at Gevrey cost fr. 2,000 million and the profit works out at 20·4 per cent.

There will be more extensive use of larger containers and of road and rail trailers. New centre stations will allow lines whose traffic is light to be closed and road transport to be substituted. Current experiments show an average economy of 25 per cent in previous expenses. At the Chalon-sur-Saône centre station the economy is 52 per cent.

Monsieur Louis Armand, Director General of the S.N.C.F., has said that the efforts of the S.N.C.F. should be continued in two directions to adapt the railways to economic requirements. First, traffic should be concentrated as far as possible on main lines of heavy traffic. The operation of the Paris-Lyons line shows that powerful equipment is highly productive and leads to reduction of transport costs in long-distance traffic. Secondly, on other lines the methods used should be simpler. The number of railwaymen has been reduced by 40,000 in the last four years, yielding an annual saving of fr. 50,000 million.

JUGOSLAVIA

New Frontier Station

The arrangements at the Bulgarian frontier are to be modified. The present frontier station is Dimitrovgrad (formerly Tsarigrad) on the Belgrade-Sofia main line, 212 miles from Belgrade and 61 miles from Nish and a little over three miles inside Jugoslavia. A new frontier station is being built in Jugoslav territory close to the border to replace a halt.

The alteration is stated to have originated with the refusal early this year of the State Railways to recognise any longer some provisions governing traffic arrangements at Dimitrovgrad in accordance with a 1948 agreement between the two countries. The Bulgarians were unwilling to accept Jugoslav proposals for a joint conference intended to bring about a revision of this agreement, which Jugoslavia considers does not now meet present conditions.

NORWAY

Lilleström—Hamar Electrification

On June 14 electrification of the Dovre line between Lilleström and Hamar was completed. The State Railways now have about 705 miles of electrified line, about a quarter of the system. The electrification of the Lilleström-Hamar line began in December, 1950, and has cost about Kr. 25,000,000.

New Dining Cars

At the end of June the State Railways brought in use four new dining cars, built by Scandia, on the Oslo and Stavanger and Oslo-Stockholm routes.

Publications Received

CABMA Register 1953. Published jointly by Kelly's Directories Limited, 186, Strand, London, W.C.2, and Iliffe & Sons Limited, Dorset House, Stamford Street, London, S.E.1, for the Canadian Association of British Manufacturers & Agencies.—This 800-page volume, in six sections, is the first officially sponsored directory in which British manufacturers list their products available for Canada, and their channels of distribution in that country. The names and addresses are listed of over 4,500 British manufacturers, 2,750 Canadian distributors, and 3,750 British-manufactured articles. Manufacturers of railway material are shown under the several heads. The thoroughness with which the volume has been produced is shown by the inclusion of lists of proprietary names and trade marks and a glossary of French-Canadian product terms. The register, which hereafter is to be published annually, is produced in collaboration with the Dollar-Sterling Trade Council in Canada, and with the Dollar Exports Council, the Federation of British Industries, the Association of British Chambers of Commerce, the National Union of Manufacturers, the Scottish Council (Development & Industry), and the Northern Ireland Industries Council in the United Kingdom.

Activities of British Oxygen Co. Ltd.—The British Oxygen Co. Ltd. has issued a special Coronation Year brochure which reviews the activities of the group in industry, medicine and surgery. The brochure is illustrated with half-tones depicting profile cutting of materials up to 25 tons in weight, bridge cleaning by oxy-acetylene flame, underwater cutting, ingot trimming and other steel works operations. Other illustrations include continuous tube forming by the welding process at speeds up to 120 ft. per min., the use of rare gases, neon, helium, krypton, xenon, and argon, each of which has its special use in industry, medicine and science, besides an illustrated description of the Argonarc welding process, used in the welding of stainless steel, aluminium, magnesium and their alloys.

Industrial Illumination. — Since its formation in 1908, Benjamin Electric Limited has specialised in industrial light fittings, and an illustrated brochure, "Lighting the Way," recently issued, sets out briefly the history of the company, and shows some of the plant, research, and technical facilities available. Details are given of the methods employed for the production of Flurolier fluorescent troughs, the Benjamin Saaflux system of reflector construction, Crysteel vitreous enamel, and so on. The equipment in the laboratory includes a photometric integrating sphere 12 ft. in diameter and weighing some 12 tons, and other photometers for measuring light distribution and intensities for the calibration of lamps and meters.

Pulley Blocks and Chain Hoists.—Details of lightweight pulley blocks and electrically operated chain hoists are featured in a series of catalogues issued recently by Herbert Morris Limited, Loughborough. A feature of the pulley blocks is their lightness, compared to previous designs, which, it is claimed, reduces the weight by some 40 per cent without diminution of strength. Grease lubrication is provided and the types range from 5 cwt. to 20 ton lifting capacity; principal dimensions and other information is given in table form. Lightness and compactness are also features in the design of the new electric chain hoist which includes a totally-enclosed high-torque motor of ample rating, the motor casing is of aluminium alloy. The voltage range is 200-500 a.c. only.

Polyester Resins.—For over a quarter of a century Scott Bader & Co. Ltd. has specialised in the manufacture and development of synthetic resins for the plastics, surface coating and allied industries. These include Marco resins, and cold setting polyesters; more recently, a new range of polyester resins has been developed under the name of crystic resins. These are designed to fill the need for particular applications. Crystic pre-impregnated glass cloth and powdered "B" stage polyester resins are two new products resulting from the firm's research. The Polyester Handbook has recently been issued, which provides data of practical value in the application of these resins.

Machining the Nimonic Series of Alloys.—A new edition of this useful publication has just been issued by Henry Wiggin & Co. Ltd. containing additional information on drilling and extended to cover the newer alloys, Nimonic 90 and 95. This publication provides general guidance based on practical experience and makes reference to various tools and cutting oils which have been proved successful. Suggested speeds and feeds are given for each operation, together with diagrams of profiles and tool forms taken from actual machining operations. In general, essential requirements for the successful machining are (*a*) the use of tools which are sharp and will resist abrasion (*b*) show speeds and a smooth drive with adequate power to prevent stalling.

Europ Wagon Pool

Common user by ten European systems

(By a Correspondent)

THE acute postwar wagon shortage in Central and Western Europe in 1945-48 revealed the weaknesses of the R.I.V., the international agreement covering freight rolling stock, more particularly in the slow turnround caused by the restricted common user afforded by the R.I.V. and consequent extensive empty running. Efforts were made to remedy this, notably in partial abandonment in a recent revision of the principle of immediate return to the owner railway with greater importance attached to loading of wagons returned.

The German Federal and French National Railways took another step in an endeavour to reduce to a minimum the empty wagon movements of the stock exchanged between them. Negotiations begun late in 1950 led, after three months, to the conclusion of an agreement in the common user of certain wagons by the two undertakings. It in no way affected the rights of other administrations. The agreement, which came into force on May 1, 1951, was not to remain limited to France and Western Germany but to become the basis of a future European wagon pool. With this in view the inscription "Europ" was chosen for the stock.

Advantages of Franco-German Pool

The advantages of the new wagon pool were soon recognised by other railways. Another eight Western European railway administrations considered joining it and negotiations began in June, 1952.

Agreement between ten railways of different size and volume of traffic, with varying wagon fleets, was more difficult to conclude than that between two bodies of about equal importance and with traffic of equal volume. The wagons which it was intended that the eight railways joining should contribute had to be examined to determine whether their loading capacity and interior dimensions would meet all the requirements of the railways participating. Special consideration was given to selection of only standard and new stock, to limit the stock of spare parts to be kept available abroad. The pool at present includes some 153,000 wagons, or only 53,000 more than in the Franco-German pool. The problem of the daily exchange of empties between the administrations was hard to solve in view of the principle that none of the railways should be in a worse situation than under the R.I.V. scheme. The negotiations were concluded successfully, in January, 1953, in Brussels. The new agreement was signed on March 2 at Berne, and became effective on March 15.

The following railways participate: French National (S.N.C.F.), German Federal (D.B.), Saar (S.E.B.), Austrian Federal (O.BB.), Belgian National (S.N.C.B.), Danish State (D.S.B.), Italian State (F.S.), Luxembourg National (C.F.L.), Netherlands (N.S.), and Swiss Federal (S.B.B./C.F.F.). In the committee, all the ten administrations are represented with equal voting rights.

The committee must ensure that regulations of the agreement are correctly interpreted and applied by all railways involved, agree on revisions and complementary applications in connection with the convention, and decide on applications for membership from other railways. It is summoned when necessary by the Swiss Federal Railways as the presiding body. The Europ stock is controlled by the office at Berne, where each has one or two representative.

At present 59,774 closed and 92,905 open wagons are used, contributed as follows:—

Closed	Open	
30,000	20,000	SNCF
10,000	40,000	DB
8,500	11,000	SNCB
5,000	10,000	FS
1,500	3,000	OBB
600	3,500	SEB
2,000	2,000	SBB/CFF
1,500	2,250	NS
474	755	CFL
200	400	DSB

No flat wagons are yet included, as they differ greatly in construction.

All participants have agreed to build or order for the purpose of the pool only wagons which meet the requirements of the International Union of Railways. The common user stock retains its original number and inscriptions of the owner railway, and is also marked "EUROP." There is no further obligation to return the units to the owner railway. The stock may be freely reused within the pool, and each railway may use the empties freely.

While the pool comprises only 153,000 wagons, it cannot meet all demands and a considerable share of the transport is still handled under the R.I.V. scheme. The German Federal Railway has arranged that its non-Europ wagons can be used for transport to other Europ railways only, if at the consigning station or nearby neither an Europ nor any foreign R.I.V. empty to be returned is available. Also, it does not use Europ wagons for internal part-load traffic, as this would unduly prolong the time before they were again available for international traffic.

Because of the different and daily fluctuating volume of traffic exchanged between the Europ administrations, the stock of available empties alters daily. It may be more or less than the stock contributed. The Berne office must determine the surplus or shortage of empties, and redress the balance. All transit stations of participating railways have therefore to report the number of Europ wagons exchanged, empty or laden, giving the wagon number and the owner railway after collating the lists with the adjacent railway. The total number of Europ wagons, shown separately as covered and open, exchanged on the previous day is reported to the Europ office by telephone; all head offices of the administrations involved are connected by special service telephone. In addition, a report is made of the number of Europ wagons exchanged with non-member railways. The figures are confirmed on the third day, with any necessary revision. The Europ office ascertains for each day, by type, and on the basis of advices by member railways, (*a*) the number of "Europ" wagons on the lines of each railway administration (its "effective" stock); and (*b*) the total number of Europ wagons on the lines of other railways (the "account" stock).

In consequence, for Europ administrations (such as the Belgian and Dutch) not adjacent to non-member railways the "effective" stock is equal to the "account" stock. If a member administration's account stock exceeds its contributed stock, as a consequence of unequal incoming and outgoing traffic, the Europ office determines and orders the necessary movements of empties. If, however, a member administration requires help in increasing its wagon capacity from another Europ administration, the latter may transfer to the first a share of its own contribution for a certain period. The duration of the loan and hire charges are fixed between the two administrations concerned, and the Europ office is informed.

Balance Delivery

Each member railway must arrange immediately for balance delivery of Europ wagons determined by the Europ office. If, however, the debtor administration can forecast that its stock of Europ wagons will be balanced within a short time by the delivery of laden Europ wagons the delivery of empties need not take place, or not in full.

The advantages of the scheme are evident, for the debtor administration doubtless will deliver at first those empties near the frontier to the adjacent railway to which the empties should be sent according to Europ office instructions. For example, the German Federal Railway, complying with a Europ office order to send Europ wagons to Denmark would not move Danish Europ wagons from far away, but would collect and deliver all Europ/DB, Europ/SNCF, Europ/FS, and so on, in use near the Danish frontier, say in Hamburg or Hanover.

Member administrations with predominantly import or transit traffic might easily have difficulties when effecting an immediate balance of their surplus stock. To facilitate the conversion from the R.I.V. to the Europ scheme they are allowed to postpone balancing. They are allowed to compensate their stocks only within a period corresponding to the former average retention of the foreign goods stock on their lines under R.I.V. arrangements. For the use of the pool stock, member administrations whose account stocks exceed their contributions are charged a rental.

The hire charge is ascertained by calculating the wagon/days, for each type of Europ wagon, and is credited to those member administrations whose stocks are less than their contribution, and in the ratio of their shortage. The retention charge amounts to two gold francs, as long as the surplus does not exceed a stated number of wagons, depending on the traffic volume, and three gold francs for open and 3·50 gold francs for closed wagons for the share of the surplus exceeding a fixed number. Between September 15 and December 15 the retention charges are increased from three or 3·50 gold francs respectively, to five gold francs. The limit of the surplus up to which two francs are charged, is ascertained for each day, by the Europ office, after general directions, and is advised to all Europ administrations.

Maintenance

As all Europ wagons may be used freely within the pool and in consequence may return home only after months or even years, they have to be maintained and repaired by railways using them. For this purpose each railway keeps spare parts for any Europ type. The user railway may return a wagon to its home system if the repair of heavy damage would raise considerable difficulties, but only after written agreement between both administrations concerned. The repair at home is then carried out at the expense of the railway on whose lines the damage was incurred. Transit stations make sure that all empties offered are in good repair; they may reject defective stock.

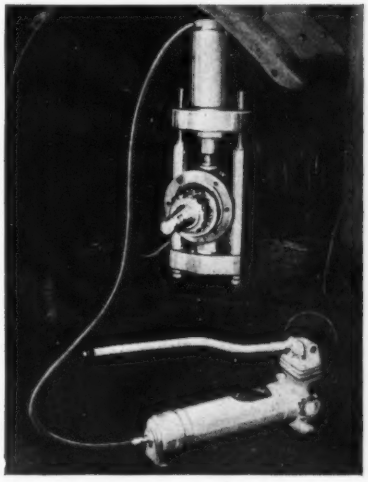
Wagons whose term of inspection has expired must be returned home, laden if possible. The inspection has to be carried out by the home administration every three years, and at its expense. Wagons have to be maintained so that they can be expected to remain serviceable until the next inspection date, under normal conditions of use. Obviously careless maintenance performed by the owner administration entitles the administration taking the wagon to return it after agreement. A wagon not returning home after three years is considered lost. Liability rests with the railway last taking it over. Railways which are not signatories handle pool vehicles but only according to the R.I.V. regulations. Charges payable by the non-participating railways for retention by them of Europ wagons are debited by the Europ office to the participating railways contiguous to the non-participating ones, in proportion to the number of Europ wagons with which the member railways concerned are debited in respect of Europ wagons held on the non-participating systems adjacent.

Kingpin Remover Equipment

Hydraulically operated pump which exerts a force of 12 tons, when its pressure reaches 5,000 lb. per sq. in.

CHAMBERLAIN INDUSTRIES LIMITED has produced a heavy-duty hydraulic kingpin removing tool designed to fit the axles of the majority of road transport vehicles. Basically the equipment consists of a hydraulic pump incorporating the Staffa principle, giving faster approach speed and easy working under pressure. The pump is connected by 7 ft. of high-pressure flexible hose to a single-acting, spring-return hydraulic ram unit which is fitted by a screw thread to the press frame. The cross members of the press frame are fabricated from 2 in. steel plate giving ample strength and rigidity to the assembly.

The tie-rods are of hexagon section making for easier grip for adjustment purposes. The upper yoke is threaded to accommodate the ram unit and also the tie-rods on which a substantial thread gives wide adjustment of working depth. The lower yoke is drilled and the tie-rods passing through it are secured by nuts at the bottom. The hole in the centre of the lower yoke is of 2 in. dia. and allows the kingpin, or other fitment to pass through in the course of extraction. For re-fitting, a spigoted plate is provided which rests in the large hole and upon which the pin rests for lining up.



The Staffa kingpin remover equipment in position, showing the single-acting hydraulic unit

The principle of the equipment is that during the refitting operation the ram remains stationary on top of the sub-axle, while the cylinder, moving backwards, draws the press frame upwards, taking with it the kingpin which is reseated into the bush. A force of 12 tons is exerted by the ram when the hydraulic pressure reaches 5,500 lb. per sq. in. which force is sufficient to dislodge the kingpin. The employment of a comparatively short ram cylinder enables the equipment to be fitted with the ram uppermost and the height to which the vehicle need be jacked up is kept to a minimum. Pusher pins, having an effective length of 6½ in., are available in diameters of ¼ in., ⅞ in. and 1 in.

L.M.R. AND THE ROYAL SHOW.—The London Midland Region has been commended by organisers and exhibitors for its handling of traffic for the Royal Show at Blackpool. Planning of arrangements was necessary a long time ahead. To deal with the heavy tonnage of traffic and livestock considerable resources had to be deployed specially. On the peak day 137 staff specialists, seven cattle floats, 288 goods trailers, 25 livestock vehicles, and three goods yards and five showground cranes were employed. Inwards traffic for the show amounted to 1,555 vehicles of contractors' material, implements and so on, while 450 animals were received in 167 vehicles. There were over 1,500 small consignments, as of poultry and flowers. The total weight carted, including livestock, was about 7,000 tons. As recorded in our July 10 issue, special alterations were necessary to Blackpool North Station.

NEW MOTOR VESSEL IN SERVICE ON CLYDE.—British Railways new motor vessel *Maid of Cumbrae* began to work a series of afternoon and day excursions between Glasgow Bridge Wharf and Dunoon on July 18. The first excursion left Bridge Wharf at 2 p.m. and arrived at Dunoon at 4.30 p.m., with return departure at 5.50 p.m. reaching Glasgow at 8.20 p.m. On other days excursions leave Bridge Wharf in the morning for Dunoon.

Signalling on the Swiss South-Eastern Railway

Private system completes resignalling programme, using the latest equipment now being generally applied in Switzerland

THE Swiss South-Eastern Railway (Süd-Ost Bahn) is 31 miles long and is laid to the standard 4 ft. 8½ in. gauge. Electrically worked on the 15,000 volt, 16⅔ cycles, single-phase system, it is not only of great local importance but forms part of an important direct through route between the eastern and central Cantons of Switzerland. It deals with a heavy excursion and sports traffic out of Zurich and also serves Einsiedeln, the centre of religious pilgrimage.

At Arth-Goldau the railway connects with the main line of the Swiss Federal Railways from Lucerne to the Gotthard and also with a route from Zurich through Zug. At Wädenswil and Pfäffikon it connects with the Federal route from Zurich to Landquart and Chur and thence to the important Rhaetian Railway, while at its terminus at Rapperswil it again connects with the Federal system of lines.

Of recent years great progress has been made in introducing up-to-date equipment in all departments. It was recognized that the capital expenditure involved in electrification, which was completed in 1939, and involved almost complete renewal of the rolling stock, could only bring its maximum benefits if the signalling were modernised, enabling a more frequent service to be run at higher speeds. This work was begun in 1944 and completed in 1951, with the result that the railway can claim to have equipment fully equal to the best main-line practice.

Signal and Points Operation

All stations, except those where the line connects with the Federal Railways and does not itself manage them, have been fitted with power frames of the so-called "single row" pattern, in which a number of rotary-motion handles, acting at times in conjunction with push-buttons, controls the working of the points and signals. The largest contains 20 handles. As a rule the apparatus is placed in a built-out portion of the main station building, but at Einsiedeln there is a signal box of usual construction, and at Bieberbrugg the frame is placed out on the platform and covered by a pull-down roller blind when the official in charge is not present.

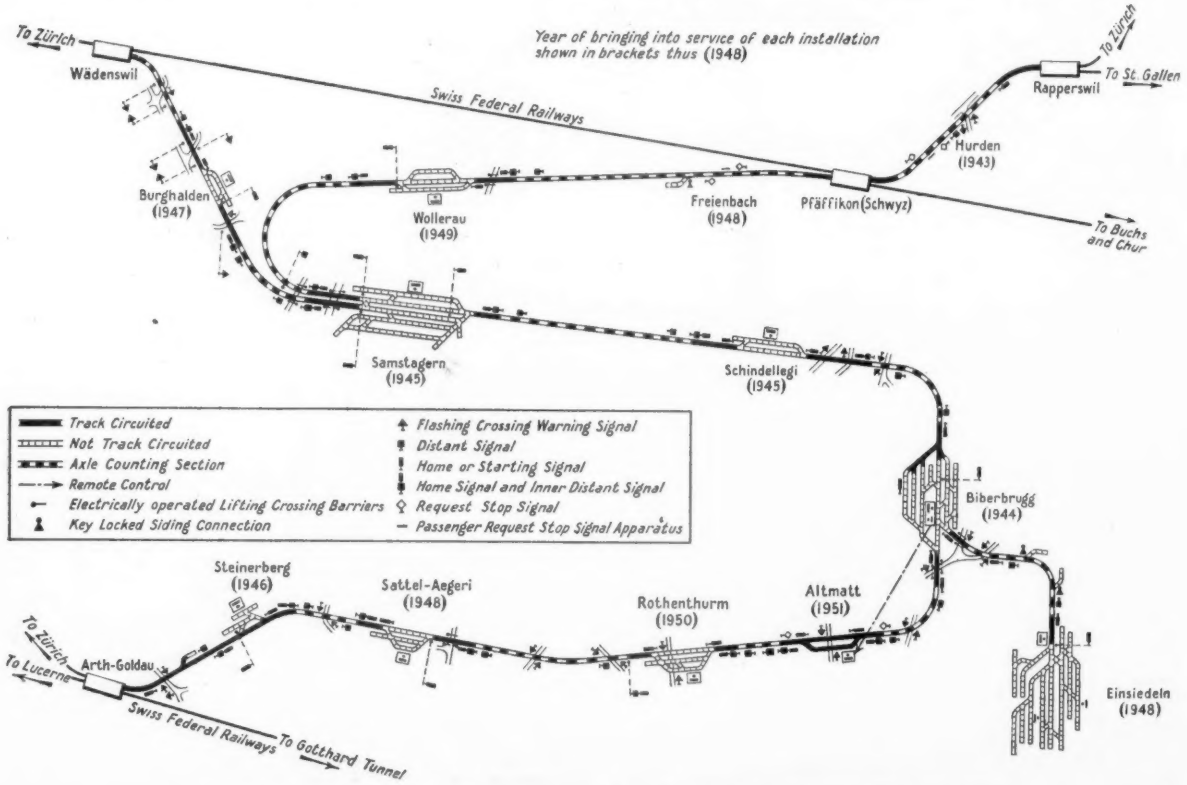
Points are operated individually, as this accords with the methods followed generally in Switzerland in dealing with shunting, but one handle is made to serve for several signals by manipulating it in conjunction with route-selecting buttons, allocated to the various movements to be dealt with. In most cases this results in only two signal control handles being required, but more are used at the junctions.

The whole of the locking is effected electrically and there is no mechanical locking box, the working resembling that of the electrically-locked lever frames seen in Great Britain. When, therefore, a movement ought not to be made, the relative handle is held locked.

All running movements are protected by route-locking, released electrically by the train. Above each frame is a track diagram on which the condition of the signals, etc., is indicated by lamps and beneath it is a hinged transparent cover in a holder, in which the graphic timetable can be fixed for constant ready reference. For points but little used key locking is provided.

These arrangements have been found to be well adapted to stations where the staff has a number of duties to attend to in addition to signalling the trains. As shown on the accompanying general diagram, four stations can be switched out when desired and left arranged for direct through working

The signal to start, which is given by the station staff and not by the guard, the reverse of British practice, is con-



Diagrammatic map showing the signalling of the Swiss South-Eastern Railway system

Power frame in extension to station building (left); and frame at Bieberbrugg with roller blind cover (right)

veyed to the driver by special light signals operated in conjunction with the ordinary starting signals controlling entry to the section in advance. The relays and associated electrical equipment at stations are installed either in wall type apparatus cases or separate rooms or at times behind the frame itself, according to the facilities available. The design of the relays is such that a considerable number can be accommodated in a very small space.

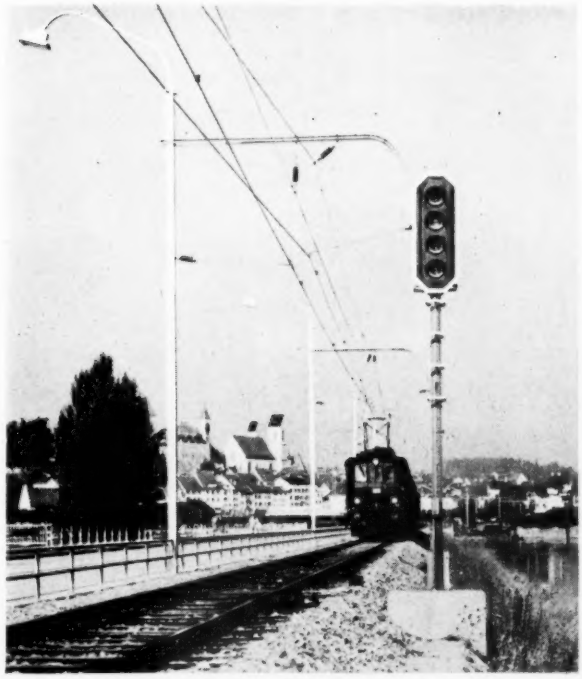
Outdoor Equipment

All points, whether facing or trailing, have the standard toggle type lock, as is customary in Switzerland, and are trailable without damage. They are fitted with electric point machines, except in a few cases of connections seldom required to be used, where there are key-locked hand levers for direct local operation.

All running signals are colour-lights and exhibit the aspects now standard for all Swiss railways and based on the speed principle. These provide separate indications for diverging movements made over ordinary or special large radius turnouts.

Home or starting signal aspects for a direct route, or for one leading over a special large radius turnout, are formed of one or more green lights, arranged vertically, but if the route leads over a turnout of ordinary radius a green light appears over a yellow light, to indicate that reduced speed is called for. The stop aspect is invariably a single red light, the distant approach aspect to which is two yellow lights, placed horizontally.

When a home signal is cleared for a direct route its distant shows two green lights, set diagonally, but if the route involves a large radius turnout then an extra yellow light appears at the distant, beside the green ones. When, however, a home signal is cleared for a route over an ordinary turnout the distant shows yellow and green, again



Colour-light home signal at Rapperswil

Level crossing warning signals

set diagonally. Except of course at the termini, there are inner distants at all the stations, repeating the starting signal indications, as the ordinary, or outer, distants are not interlocked with those signals. Points have the usual indicators, seen generally in Central Europe, but certain shunting movements are controlled by actual shunt signals, as understood in Great Britain. Adopted at many stations in Switzerland of recent years, they have not only speeded up the working appreciably, but have eliminated the cases of points being run through, which although not causing actual damage must result in a certain amount of delay.

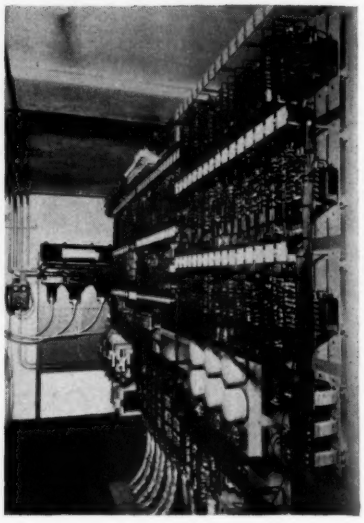
Station starting signal with driver's signal to start

Push-buttons are provided at selected locations in the layouts, from which requests for reversal of points can be signalled to the official working the frame, and at Samstagern, where there is much shunting, a local electric frame is provided, released from the main one, from which operations can be dealt with by the man on the ground, shunter or trainman, as the case may be.

At this station the lines running to Burghalden and Wollerau leave on very steep rising gradients and catch-points with sand drags are provided just outside, normally standing to trap any runaway vehicles. They must be set for the main line before any home or starting signal can be cleared, and return automatically to normal as soon as the movement concerned has passed clear of an insulated section. Their position is indicated by additional signals attached to the ordinary ones. They can be operated by special switches in the frame in the case of movements having to be made in emergency against a signal at danger.

Signalling between Stations

Except between Arth-Goldau and Steinerberg, where there is a frequently-used siding connection, and in consequence the cost of providing timber sleepers has been incurred, the sections between stations are laid on steel sleepers, which it was desired to retain for local reasons. Such sections are controlled by inductive type axle-counters and the clearing of a starting signal is made dependent on the section in advance being proved clear and the necessary directional control established. This latter can be reversed by a stationmaster, when required, by actuating a directional button on the frame, without the next station being required to co-operate. If, however, it is desired to retain control of the direction of traffic against alteration this can be done by operating an additional button. As soon as the last vehicle of a train is registered as having reached the home signal, the section in rear is indicated as clear.

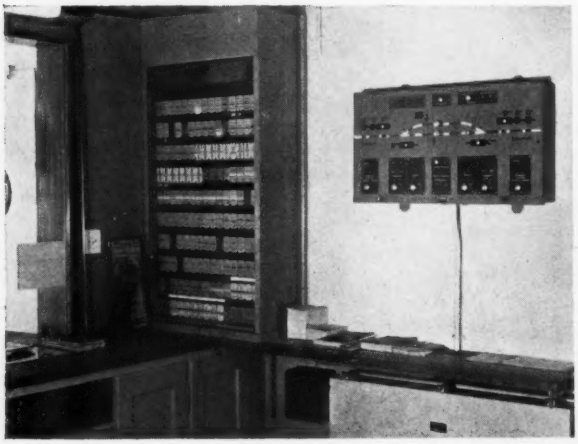


Interior of a relay room

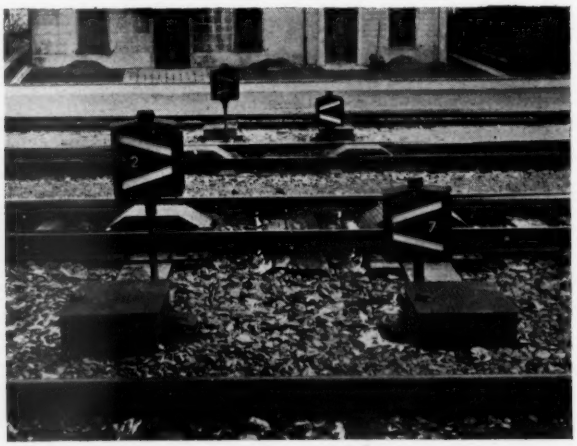
The signalling operations between two stations are carried out, inclusive of the axle-counting, over two conductors in the connecting cable. Between Bieberbrugg and Altmatt the gradients necessitate certain trains being banked and the assisting locomotive returns on reaching the summit point. Special switching arrangements allow of counting it out of the section so that the apparatus returns to normal when the train itself arrives complete at the station in advance.

Remote Control Panel

At Altmatt the apparatus normally is not manned and for most trains the layout works as a through station, but for some it functions as a crossing place, especially at holiday periods. To allow of this without unnecessary expense, the frame was arranged to be remotely controlled from Bieberbrugg, which station, however, does not normally have to con-



Panel at Bieberbrugg for remote control of Altmatt Station



Electrically-operated points and point indicators

cern itself with the working, everything taking place automatically at Altmatt, the condition of the equipment there being indicated on a diagram at the control point.

To transmit a series of control and reply impulses occupies at most 5 sec., and 50 different ones are provided for. The coding transmission is self correcting, that is, if any irregularity occurs the transmission becomes stopped automatically and the process recommences.

Siding Connections

For the siding connection between Einsiedeln and Bieberbrugg, where the movements serving it leave the former place and return to it between ordinary running movements, a simple key control, similar to Annett's Key, was sufficient, but conditions were different in the case of the connection between Arth-Goldau and Steinerberg, where it is necessary to allow a train to go inside and restore the through working while it shunts there.

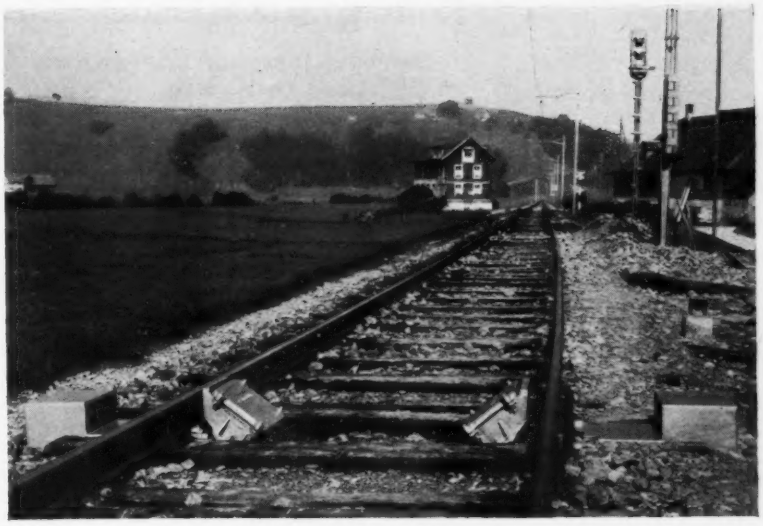
The station official at Steinerberg, responsible for this working, cannot see whether the main line has in fact been left free of vehicles, and track-circuiting was therefore put in, divided at the siding into two sections. The siding is worked from a small local frame, with electric point machines for the main track and siding trap points. This is released from Steinerberg when the necessary conditions are fulfilled.

Level Crossings

Despite certain legal difficulties affecting the application of automatic light signals at level crossings on heavily-used highways, there are several such on the line and similar apparatus is in service at less-used locations.

The crossing warning signals are operated by track circuiting and their correct working is indicated to an approaching train driver by a flashing yellow light, so that in the event of failure he can proceed cautiously over the roadway and sound his whistle. In some cases these flashing light installations are close to a station and are set working for departing trains by the act of clearing the starting signal, with a certain time lag on the green aspect, to allow the warning to have time to become effective.

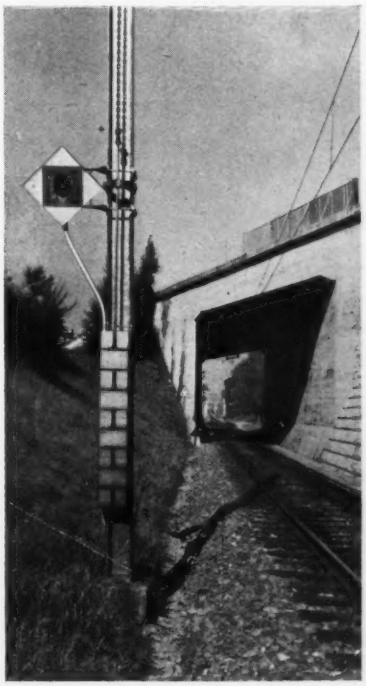
Four crossings have the lifting type of barrier, common on the Continent, operated electrically. At Bieberbrugg there is a double set over a road carrying a very heavy Sunday traffic. At such times the crossing is controlled locally and at others control is from the frame in the station.



Track apparatus of the inductive axle-counting system used on sections with steel sleepers

Request Halts

At Hurden and Freienbach are unstaffed halts where trains stop by request only, and Altmatt station is similarly arranged. Anyone wishing to board a train operates a special push-button not longer than a prescribed interval before it is due. This causes a single-lens approach signal to show a flashing white light, instructing the driver to stop to take up.



Passengers' push-button (left) and flashing light signal (right) of request stop system installed at two halts and Altmatt Station

Conclusion

The application of such very complete and up-to-date signal apparatus on this railway is attributable to the initiative of the General Manager, Herr O. Zuber, who realised that it would be much more economical in the long run to use the best modern equipment rather than make improvements and additions to the ordinary installations, nearly always a costly process.

The result has been considerably to increase the capacity of this single-line railway and improve the overall speed of the services. A great part of the traffic is passenger and liable to be much affected by competition. Staff economies have been effected while the maintenance charges for the new equipment are less than those of the old mechanical signalling.

The whole of the work was provided by the signal engineering firm of Integra A.G., Wallisellen, Zurich, to which we are indebted for the accompanying photographs and diagram.

Rolling Stock Shock Absorbers

Designed to provide decreased maintenance and ease of riding at high speeds

MUCH attention has been given in latter years to improving the riding qualities of railway rolling stock by fitting shock absorbers to provide a cushioning action between the vehicle and the permanent way. The principal object is to reduce vertical and lateral vibration, with consequent improved riding qualities at high speeds, reduced maintenance costs of the permanent way and rolling stock, and less damage to fragile goods in transit.

Running Tests

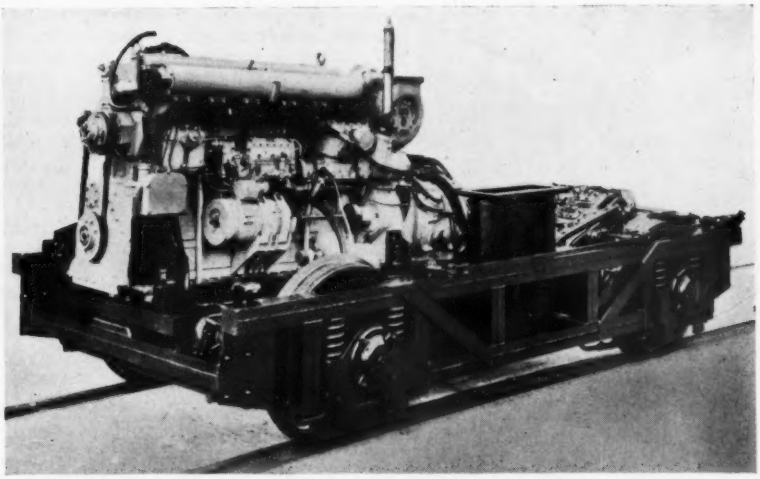
Some time ago, interesting tests were conducted in America under actual running conditions by Waugh Laboratories, New York. A 40-ton capacity refrigerator car was fitted with oil-operated shock-absorbers, which were mounted to control the bolster springs. These tests were carried out on the Pere Marquette line between Grand Rapids and Detroit. The results of the tests are given in the table below:—

The greatest benefit is usually obtained by mounting the units to control the bolster or main suspension springs depending on the design of vehicle. They can, however, be used to control any spring or swinging member in vertical or horizontal planes, and valve arrangements are available for special duties. The shock absorber is designed to withstand variations in climate and the piston rod which is the only working part exposed to atmosphere is hard chrome plated. The oil seal prevents the ingress of dust and the unit is protected externally by a heavy gauge tube.

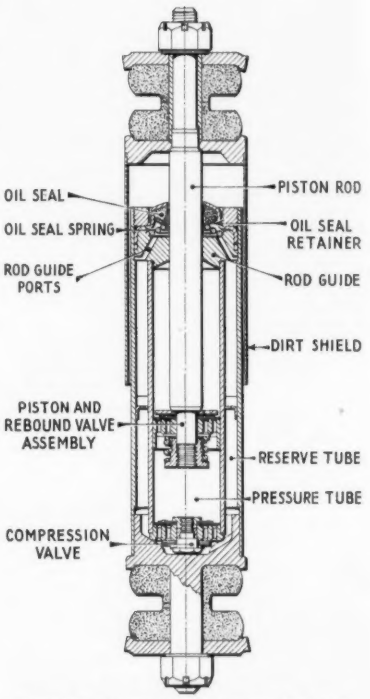
The Woodhead-Monroe shock absorber which is manufactured in this country by Jonas Woodhead & Sons Ltd., is of the bleed and blow-off type, but this does not necessarily mean that resistance has reached its maximum as soon as the blow-off valve opens. Resistance characteristics are extremely versatile since there are six variables on both strokes. These are set during assembly, and each shock absorber is tested on a special testing machine designed for the purpose. Subsequent attention is unnecessary except perhaps at normal overhaul of the rolling stock.

The general construction and operation of the Woodhead-Monroe shock absorber are approximately the same whether required for heavy or light duty. Each part is designed in such a way as to keep stresses well within safe limits. A special feature of the design is the oil seal arrangement which it is claimed has proved reliable under all climatic conditions.

Load and load distribution	Nature and position of measured vibration	Percentage vibration		
		Without shock absorbers	Shock absorbers with standard springs	Shock absorbers with softer springs
25,000 lb. of meat suspended on rails 500 lb. on truck floor	Vertical vibration in centre of truck	100 per cent	36·4 per cent	6·8 per cent
	Lateral vibration at meat rail level	100 „ „	72·8 „ „	52·6 „ „
24,000 lb hanging from meat rails	Vertical vibration on truck floor	100 „ „	75 „ „	14 „ „
	Vertical vibration at meat rail level	100 „ „	87·2 „ „	10 „ „
Partial load of 4,000 lb.	Vertical vibration on truck floor	100 „ „	59 „ „	17 „ „



Power bogie of Jamaica Government Railway railcars, built by D. Wickham & Co. Ltd., fitted with Woodhead-Monroe shock absorbers



Section through oil-operated shock absorber

Operation Control

During the compression stroke the oil is displaced in the pressure tube by the action of the piston rod, and passes through a compression valve into the reserve tube which action controls the resistance of the shock absorber on the downward stroke. A light one-way valve is situated at the top of the piston which allows the displaced oil to pass into the space above the piston. The outer ring of holes in the compression valve is closed to the downward passage of oil by a second one-way valve, the oil passing through the inner ring of holes into an annular groove which is normally sealed by a metering spacer and spring disc.

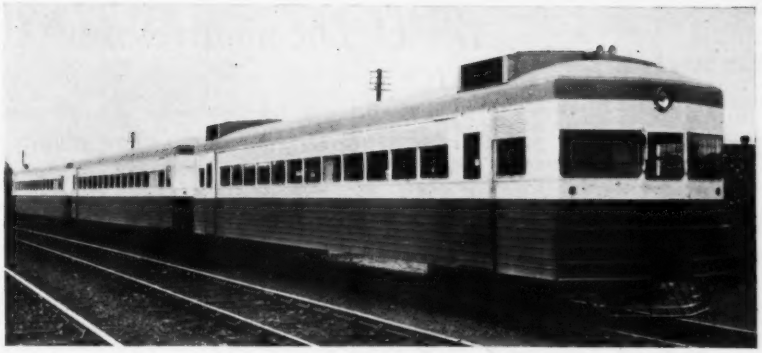
The oil pressure at which the discs deflect is controlled by the strength and number uniflex discs, and the bleed characteristic of the valve is governed by the number of notches in the metering spacer. In certain circumstances it is an advantage to have a build-up in resistance at higher speeds of opera-

tion, in which case orifice control is introduced by restricting the size and number of holes in the compression valve.

The outer ring of holes in the piston can be similarly restricted, so that high resistances can be obtained for higher operating speeds without undue increase in oil pressure.

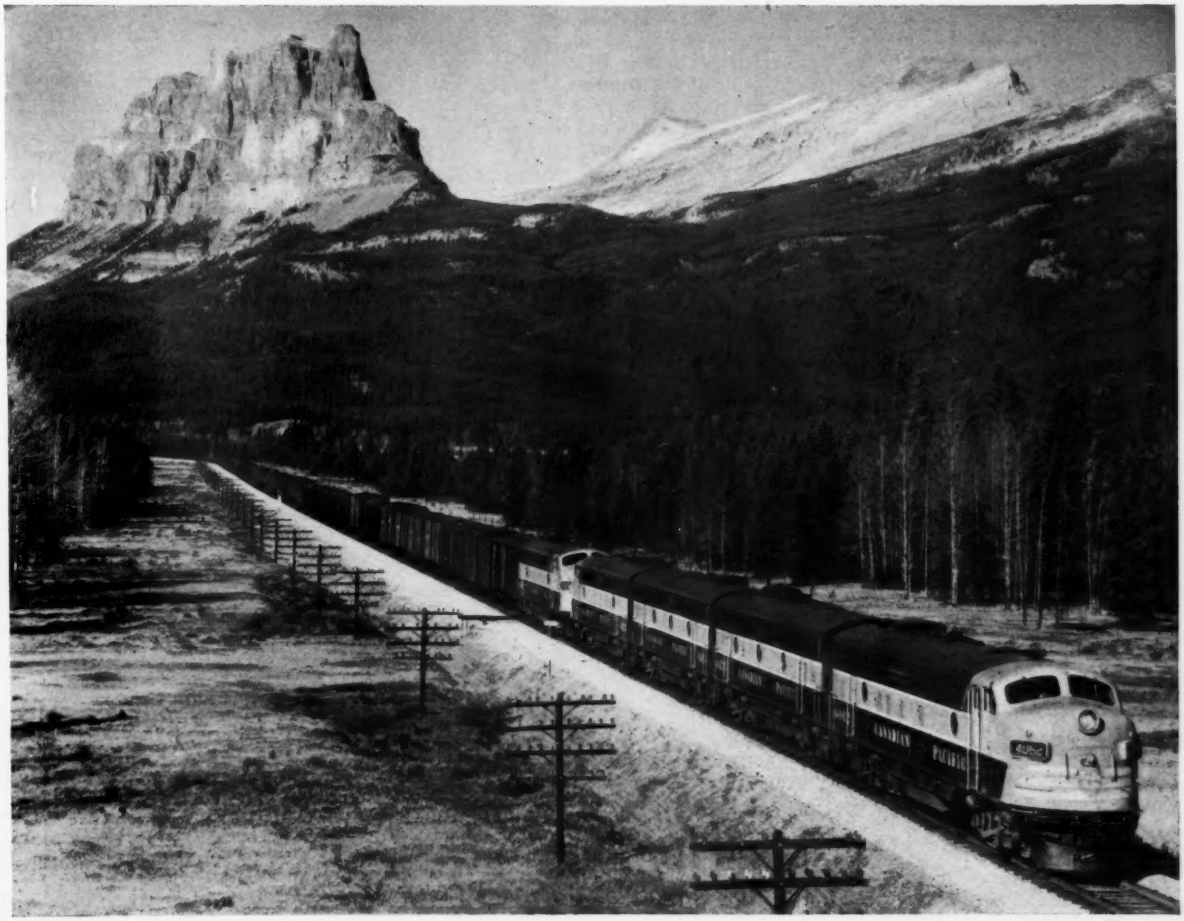
Rebound Operation

On the rebound stroke the valve in the piston resists the flow of oil as it rises in the pressure tube thus controlling the resistance, the recuperation of the oil drawn from the pressure tube is through the one-way valve in the compression valve, through which oil from the reserve tube passes. The intake valve in the piston is closed on this stroke by pressure of oil above it, the oil being forced down the inner ring of holes in the piston into the grooves beneath, which is normally sealed by metering notches, the build-up of the pressure is on similar lines to that obtaining during the compression stroke. As on the compression stroke orifice control can be introduced to give a rapid build-up in resistance at the higher speeds of operation of vehicles.



Jamaica Government Railway 480-h.p. railcar, with two first and second class trailers, fitted with Woodhead-Monroe shock absorbers

Diesel-Hauled Freight Train on the C.P.R.



Five diesel-electric units heading a Canadian Pacific Railway freight train in the Canadian Rockies, with Mount Eisenhower in the background

Diesel Locomotives for Australia

Eighty-ton design for heavy shunting and freight transfer in New South Wales

AS part of a substantial programme of acquiring diesel motive power for main lines, yards, and in the form of railcar-trains for secondary passenger traffic, the New South Wales Government Railways in 1950 ordered ten Bo-Bo diesel-electric locomotives primarily for the heaviest shunting duties and the haulage of freight transfer trains. Shipment of the first of these is about to begin, and the others are to follow in rapid succession.

The order was placed with the British Thomson-Houston Co. Ltd. as main contractor. The mechanical portions have been built, and erection undertaken by, the Metropolitan-Cammell Carriage & Wagon Co. Ltd., and the complete engine equipment was supplied by Davey, Paxman & Co. Ltd. These locomotives are of a compact and balanced design, well suited to heavy train haulage and low speed high tractive effort duties, though they have a top permissible speed of 57 m.p.h. and are able to undertake line service if required.

On the one-hour rating of the four force-ventilated traction motors the wheel rim tractive effort is 29,000 lb. at 8¼ m.p.h., and the continuous rating 22,800 lb. at 11½ m.p.h. Starting effort of 51,000 lb., *i.e.* 28 per cent. adhesion, can be maintained up to 2½ m.p.h. The 3 ft. 6 in. dia. disc wheels are spread over a bogie wheelbase of 8 ft. 9 in., and the bogies themselves are pitched with the pivots 25 ft. apart, giving a total wheelbase of 33 ft. 9 in. Length over headstocks is 43 ft. The N.S.W. loading gauge is a generous one by English standards, and the width of 9 ft. 6 in. is allied with a height of 14 ft. in these locomotives.

Symmetry of Design

Almost complete symmetry is the feature of the mechanical design and layout. A central insulated cab is flanked by two bonnets, each of which houses a 12-cylinder oil engine of 500 b.h.p. at 1,250 r.p.m., with its attached main generator and belt-driven auxiliary generator, this group being carried on a fabricated underbed arranged with four-point semi-resilient mounting on the locomotive underframe. Starting is by motoring the main generator with current from an Exide battery. Each of these two groups has its own engine cooling system with the radiator banks for water and oil built up at the end of the bonnet. The main 500-gal. fuel tank is slung at the centre of the locomotive, immediately beneath the cab. The cab itself displays the same symmetry, having its two driving positions arranged at diagonally opposite corners; many of the controls are arranged for operation by feel rather than by visual checking, in order to provide maximum convenience in yard operations. The bonnet roofs lift off entirely or in sections so that the engine-generator group can be lifted out or inspected as to cylinder heads.

There is nothing unconventional about the power or transmission equipment, or about the controls. If necessary either engine-generator set can be run without the other, and supplies current to the two traction motors below it. Conversely, two of these units can be coupled and driven by one man, though in this case the actual starting of the oil engines must be done on the locomotive concerned. The force-ventilation for the motors is supplied by a separate motor-blower group for each traction motor, the air being passed through ducting forming part of the underframe and then through flexible connections from the underframe to the bogie and the motor concerned.

Very complete straight and automatic Westinghouse air brake equipment is installed, with two 12 in. dia. cylinders on each bogie and with clasp rigging and two shoes to each wheel, the shoes themselves being formed of cast steel backs with replaceable cast iron wearing shoes keyed in. The pneumatic system extends also to the sanding gear. The bogie is of swing-bolster type with welded framing, and the axles run in SKF roller bearings.

SCOTTISH MACHINE TOOL CORPORATION.—Mr. Douglas Sharp, Chairman of the Scottish Machine Tool Corporation, regards it as satisfactory in view of the conditions under which trade and industry must be carried on that the results for the year ended March 31, 1953, did not show a marked change. His statement presented at the recent annual meeting said that profit before taxation was slightly less at £111,452, as against £114,510 in the previous year. After provision for taxation there remained a balance available of £38,452 compared with £42,510 in the previous year. He was pleased to say that during the year agreement was reached with the Inland Revenue on a number of outstanding matters.

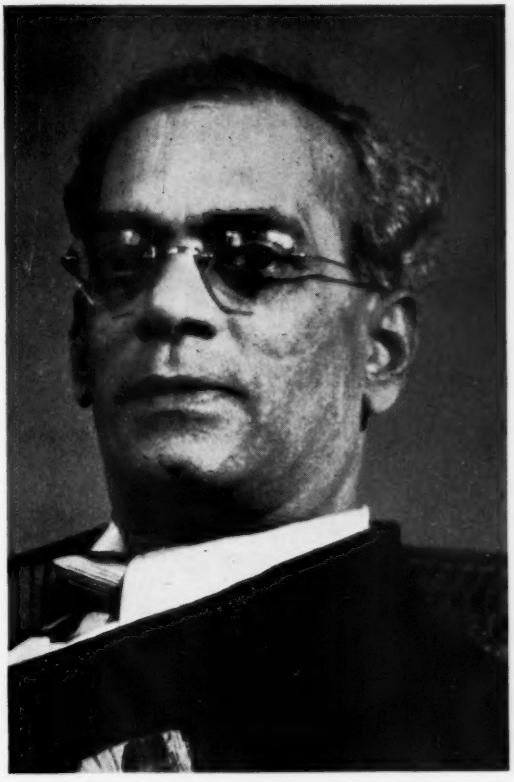
Heavy shunting and freight transfer diesel-electric locomotive for New South W ales Government Railways supplied by the British Thomson-Houston Co. Ltd. with mechanical portion by the Metr opolitan Carriage & Wagon Co. Ltd. and engine equipment by Davey, Paxman & Co. Ltd.

RAILWAY NEWS SECTION

PERSONAL

Mr. David Blee, Member, Railway Executive, has accepted the invitation of the Railway Students' Association to be its President for the Session 1953-54.

Mr. A. Saldanha, M.A. (Cantab.), M.I.E. (India), J.P., Senior Deputy General Manager, Central Railway, India, who, as recorded in our May 29 issue, was appointed to officiate as General Manager during the absence on leave of Mr. H. P. Hira, was born in 1901 and educated at St. Xavier's High School, St. Xavier's College, Bombay, and as a Tata Scholar at Gonville and Caius College, Cambridge. After obtaining a First Class in the Mechanical Sciences Tripos, and becoming Senior Prizeman of his College in 1924, he joined Messrs. Rendel, Palmer & Tritton, Consulting Engineers, and on completing a year's training returned to India. He was appointed Assistant Executive Engineer, East Indian Railway, in 1925, and later became an Executive Engineer. Mr. Saldanha was transferred to the Great Indian Peninsula Railway in 1934, and appointed Engineer-in-Charge, Permanent Way & Stores, in 1935. He subsequently held charge of various Engineering Divisions and began officiating as Deputy Chief Engineer in 1943. He was promoted as Chief Engineer in 1947. During his tenure as Chief Engineer, Mr. Saldanha was responsible for the execution of several outstanding post-war engineering projects, the most important of these being the removal of infringements in the Bhore and Thull Ghats, the construction of the new Down Line from Budni to Barkhera and the partial doubling of the Mathura-Delhi line. In March, 1952, Mr. Saldanha was appointed Senior Deputy General Manager of the newly-formed Central Railway. Mr. Saldanha was selected as a Government of India delegate to the International Railway Congress at Lucerne in 1947. He was President of the Bombay & Western Indian Section of the Permanent Way Institution from 1947 to 1952. He was appointed a Justice of the Peace in the State of Bombay in 1948.



Mr. A. Saldanha

Officiating General Manager, Central Railway, India

Mr. A. Nonzioli

Appointed Chief Accountant, General Urquiza Railway, Argentina

Mr. C. S. Boughton, Principal Assistant Architect (Road Transport), London Transport Executive, will retire on August 1 after 41 years' service.

We regret to record the death, on June 23, of Dr. C. G. MacMahon, Medical Officer of the Great Eastern Railway from 1913 to 1923, when amalgamation took place, and subsequently Medical Officer, Southern Region, London & North Eastern Railway until his retirement in 1945.

Mr. William James Parker, M.B.E., of Winnipeg, Manitoba, has been elected a member of board of Trans-Canada Air Lines Limited. Mr. Parker has been a Director of the Canadian National Railways since 1949. The legislation governing Trans-Canada Air Lines requires that five Directors be elected by the Canadian National Railways (the sole shareholder of the Air Lines) and that four be appointed by the Government.

Monsieur Jacques Chastellain has been appointed Minister of Public Works and Transport in the new French Government.

Mr. Arnaldo Nonzioli, who, as recorded in our March 20 issue, has been named Chief Accountant of the General Urquiza Railway, Argentina, was born in Azul, Province of Buenos Aires, in 1903, and completed his studies in the De La Salle College in Buenos Aires. He commenced his career in 1919 in the French & Italian Bank, and, after being employed there and in different business houses during the next ten years, he became travelling auditor for the subsidiary companies of the Electric Bond & Share Company, taking over the position of Chief Accountant of the Córdoba Light & Power Company in 1939. In 1947 he joined the Provincial Water & Power Board as Director-Accountant of the Administrative Committee for Electricity Supply to the City of Córdoba. The following year he was named, firstly, Chief of the Commercial Department and, secondly, Chief of the Auditing Department of the National Water & Power Board, which post he left to become Chief Accountant of the General Urquiza Railway.

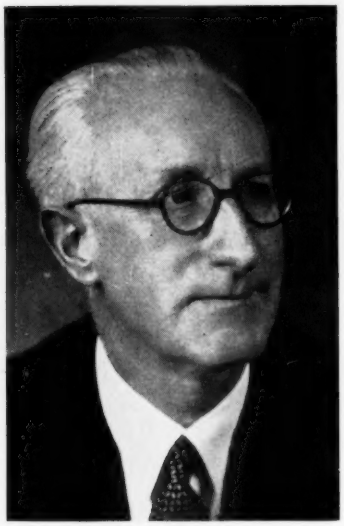
XUM

Mr. R. B. Morris

Appointed District Traffic Superintendent, East African Railways & Harbours

Mr. F. Jackson

Appointed System Manager, Kimberley, South African Railways



Mr. H. Leach

Appointed Assistant (Outdoor) to Commercial Superintendent, L.M. Region

Mr. R. B. Morris, A.M.Inst.T., Acting District Traffic Superintendent, Dodoma District, East African Railways & Harbours, who, as recorded in our July 17 issue, has been appointed District Traffic Superintendent, joined the Great Western Railway in 1930. He was selected to undergo a course of special training in 1938, and, on the outbreak of war he was mobilised with the 154th (G.W.) Railway Operating Company, Royal Engineers. Commissioned in the Royal Engineers in January, 1940, Mr. Morris subsequently served with transportation units at home and overseas, and was demobilised in 1946 with the rank of Major. He rejoined the Great Western Railway and, after completing two years of special training, he was employed on special duties connected with traffic security in the South Wales area. In August, 1949, he joined the East African Railways & Harbours as Assistant Traffic Superintendent and, in 1951, he was appointed Acting District Traffic Superintendent in charge of the Dodoma district in Tanganyika. Mr. Morris is at present on leave in the United Kingdom.

Mr. F. Jackson, M.Sc., A.M.I.C.E., Resident Engineer (Reef Construction), Johannesburg, South African Railways, who, as recorded in our June 19 issue, was recently appointed System Manager, Kimberley, joined the Service as a Junior Assistant Engineer on the Louis Trichardt-Messina-Limpopo construction on September 7, 1927. In April, 1928, he was promoted Pupil Engineer on the Empangeni-Nkwalini—Durban section and became Assistant Engineer in the office of the Chief Civil Engineer, Johannesburg, on November 17, 1930. During March, 1937, he transferred to the Rand New Works at Germiston from where he returned to the Chief Civil Engineer's Office in 1938 to become District Engineer (Construction). Two years later Mr. Jackson was appointed District Engineer (New Works), Durban. He returned to Johannesburg in January, 1944, when he took up the post of Chief Technical Officer (Reconstruction) at Headquarters. A year later he was promoted Resident Engineer (New Works) at Headquarters and became Resident Engineer Construction (New Works), Johannesburg, in April, 1948. On August 1, the same year, Mr. Jackson was appointed Resident Engineer (Reef Construction), Johannesburg, the post he now relinquishes to become System Manager at Kimberley. Mr. Jackson went on active service in 1940, and before returning to civilian life in 1945, was mentioned in despatches for meritorious service in the field.

Mr. N. W. Swinnerton

Assistant (Permanent Way Maintenance), London Midland Region, who has retired

Mr. C. Haysey

District Engineer, Newcastle-on-Tyne, N.E. Region, British Railways, 1948–53

Mr. A. G. Roberts

Assistant Stores Superintendent, Western Region, British Railways, 1950–53

Mr. H. Leach, Assistant (Road & Air Transport) to the Chief Commercial Manager at Euston, British Railways, London Midland Region, who as recorded in our July 17 issue, has been appointed Assistant (Outdoor) to Commercial Superintendent, London Midland Region, joined the London & North Western Railway in the Chester & Holyhead district in 1911 and, after serving in the army during the 1914-18 war, was transferred to the General Superintendent's department at Derby in 1924. Mr. Leach joined the staff of the Divisional Operating Superintendent at Crewe in 1928, returning to Chester in 1933, where he occupied various positions in the District Goods & Passenger Manager's Office. During the 1939-45 war he was Divisional Head Office Inspector at Crewe until appointed District Traffic agent, Whitehaven, early in 1944. Mr. Leach became Assistant (Road & Air Transport) to the Chief Commercial Manager at Euston in 1946.

Mr. N. W. Swinnerton, M.I.Struct.E., Assistant (Permanent Way Maintenance), London Midland Region, British Railways, who has retired, completed over 40 years' service on July 18. Mr. Swinnerton, who was born in 1889 in Madeley, Staffs, was educated at Madeley School. From there he went to the Crewe Mechanics Institute and the School of Technology, Manchester. He joined the London & North Western Railway on March 13, 1913, entering the District Engineer's office at Watford. He subsequently transferred to Euston, where he remained until his retirement. Mr. Swinnerton has served on a great number and variety of committees, including the Track Design Sub-Committee, the Conductor Rail Sub-Committee, the Track Tools Committee and the Education Sub-Committee, of which he was chairman. Since 1940, he has acted for the Railway Executive on various committees dealing with the development of concrete sleepers, which included a great deal of exploratory work in this connection. He is also a member of the Council of the Permanent Way Institution.

Mr. C. Haysey, District Engineer, Newcastle-upon-Tyne, North Eastern Region, British Railways, is retiring on August 3, 1953, after 49 years railway service. He entered the Engineering Department of the North London Railway in 1904. He was transferred to the London District of the former London & North Western Railway in 1909, remaining in that area until 1941, for the last six years subsequent to that date serving as Assistant to the District Engineer. During that time Mr. Haysey was associated with the many major schemes which included the electrification of the North London line in the 1914-18 war. In the 1939-45 war he was responsible for the reconstruction of many bridges and buildings damaged by enemy action. In 1941 he went to Abergavenny as District Engineer and has held similar appointments at Barrow and Leeds. He moved to Newcastle-upon-Tyne in 1948 to take over one of the largest railway Engineer's districts with a track mileage of 1,090 miles. While in Newcastle Mr. Haysey has been responsible for carrying out several large track formation stabilisation works, the reconstruction of several bridges, the partial reconstruction of Dunston Staiths, and the relaying of the manganese crossings at the approach to the High Level Bridge at Newcastle.

Mr. A. G. Roberts, Assistant Stores Superintendent, Western Region, British Railways, who retired on July 4, 1953, has completed 47 years service. Mr. Roberts joined the former Great Western Railway in the Stores Department at Swindon in 1906 where, except for a break of five years from 1914 to 1919, when he served with the Yorkshire & Lancashire Regiment, he remained until 1924. He was then appointed Chief Clerk in the Stores Department at Wolverhampton, transferring to Oswestry as Storekeeper in 1929. Mr. Roberts returned to Swindon in 1932 as Head of the Stock Taking & Storage Section, and was appointed Assistant to the Stores Superintendent in 1940. In 1947 he became Principal Assistant to the Stores Superintendent and three years later was appointed Assistant Stores Superintendent. He served as Chairman of the Stores, Stocks & Distribution Sub-Committee dealing with questions of storage and distribution of material after nationalisation. At the Head Office at Swindon, Mr. Roberts was presented by Mr. H. R. Webb, Stores Superintendent, with a wrist watch and a silver cigarette box.

Mr. Charles Corps, District Commercial Superintendent, Middlesbrough, North Eastern Region, British Railways, is retiring on August 8.

The following staff changes are announced by British Railways, London Midland Region:

Mr. J. C. Rogers, District Operating Superintendent, Liverpool (C.L.), to be District Operating Superintendent, London (M).

Mr. J. R. Sampson, Assistant District Operating Superintendent, Nottingham, to be District Operating Superintendent, Barrow-in-Furness.

Mr. H. Croft, Clerk (Personal General) Operating Superintendent's Office, Euston, to be Assistant (Indoor), Operating Superintendent's Office, Euston.

Mr. C. H. Jones, Assistant to Accountant (Bookkeeping), Euston, to be Assistant to Accountant, Euston.

The following appointments have been announced by British Railways, Southern Region:

Estate & Rating Department: Mr. G. S. H. Fisher, Technical Assistant, Road Haulage Executive, to be District Estate Surveyor (Eastern District), *vice* Mr. T. A. Greene, with effect from August 3, 1953.

Mechanical & Electrical Engineer's Department: Mr. J. P. J. Keeling, Technical Assistant, Brighton, to be District Outdoor Machinery Assistant (Central & Western Districts), Waterloo, *vice* Mr. F. Mundy, retired.

Continental Department: Mr. W. J. Nigh, Chief Regional Office, Waterloo, to be Passenger Assistant to Continental Superintendent, Victoria, *vice* Mr. E. W. Dean, retired.

At the Annual General Meeting of the British Internal Combustion Engine Research Association, Viscount Falmouth, C.I.E.E., M.I.Mech.E., was re-elected President. Air Commodore F. R. Banks, C.B., O.B.E. (Principal Director of Engine Research & Development, Ministry of Supply), Dr. S. F. Dorey, C.B.E., M.Inst.C.E., M.I.Mech.E. (Chief Engineer Surveyor, Lloyd's Register of Shipping), and Lieut.-General Sir Frederick G. Wrisberg, K.B.E., C.B., were re-elected Vice-Presidents. Vice-Admiral (E) F. T. Mason, C.B. (Engineer-in-Chief of the Fleet), Major-General H. R. B. Foote, V.C., C.B., D.S.O. (Director-General, Fighting Vehicles Division, Ministry of Supply), and Sir Harold Roxbee Cox, Ph.D., D.I.C., M.I.Mech.E. (Chief Scientist, Ministry of Fuel & Power), were also elected Vice-Presidents.

Mr. Allan Macbeth, Chairman of Exors. of James Mills Limited, has retired.

Mr. G. Bennett Roger, District Manager in Aberdeen, Dunlop Rubber Co. Ltd., has retired after 31 years' service.

Mr. Milo Millette has been appointed Works Manager at the American Car & Foundry Company's Buffalo plant.

Mr. P. E. Trier, M.A., and Mr. G. Knott, A.M.I.E.E., have been appointed Joint Managers of the Mullard Research Laboratories.

Two new Directors have been appointed to the board of the General Electric Co., Ltd.; Mr. O. W. Humphreys, B.Sc., F.Inst.P., M.I.E.E., and Mr. A. L. G. Lindley, M.I.Mech.E.

Mr. F. Horler, Signal Engineer, Siemens & General Electric Railway Signal Co. Ltd., will retire at the end of this month after completing 52 years' service in railway signalling.

The Dunlop Rubber Co. Ltd. states that Mr. G. H. Way, Chief Planner in the Fort Dunlop factory, has been appointed manager of the General Tyre Sales Division.

The Hon. A. C. Geddes has resigned his Directorship of the Brush Electrical Engineering Co. Ltd, in order that he may be free to develop his personal business interests.

Mr. Donald N. Bradshaw has been appointed Yorkshire District Manager of Dean & Dawson Limited in succession to the late Mr. Horace S. Ecob. Mr. Bradshaw, who joined Dean & Dawson in 1922, will supervise 10 of the Company's offices located all over Yorkshire.

Mr. Donald F. Brown has resigned his managing directorship and directorship of the Westinghouse Brake & Signal Co. Ltd. and his directorship of all its subsidiary and associated companies. He is the son of the late Mr. H. G. Brown, who was the chief executive of the company, and he has been Managing Director since 1947.

THE INSTITUTE OF TRANSPORT

The following nominations of the Council have been elected with effect from October 1, 1953:—

Members: Messrs S. Dudman, Transport Manager, Balfour, Beatty & Co. Ltd.; Director, Llandudno & Colwyn Bay Electric Railway Ltd., R. G. Grout, Director, General Steam Navigation Company Ltd., A. A. Harrison, Executive Officer (Road Transport), Railway Executive, E. S. Hunt, Assistant Chief Regional Officer, London Midland Region, British Railways, D. S. Inman, District Goods Superintendent (Liverpool), London Midland Region, British Railways, W. MacGillivray, Managing Director, Prince Line Ltd.; Director, Furness, Withy & Co. Ltd., C. H. S. Pickett, Director & General Manager, Eastern Counties Omnibus Company Ltd., A. G. Marsden, C.B.E., Transport Adviser to the Board of Unilever Ltd., Major-General G. N. Russell, C.B., C.B.E., Chairman, Road Haulage Executive.

Associate Member: Mr. C. F. Klapper, Editor, *Modern Transport.*

British Transport Commission Statistics (Period No. 5)

Summary of the principal statistics for the four-week period ending May 17

STAFF

—	B.T.C. Head Office	British Railways	London Transport	British Road Services	Road Passenger (Provincial)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks, Harbours, Wharves	Railway Clearing House	Commercial Advertisement	Legal	Films	Total
Number ...	288	603,302	96,433	69,949	61,406	16,194	6,274	4,724	20,955	540	200	319	44	880,628

BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

	Four weeks to May 17		Aggregate for 20 weeks	
	1953	1952	1953	1952
	£000	£000	£000	£000
British Railways—				
Passengers	7,737	7,510	36,368	35,523
Parcels, etc., by passenger train	3,012	2,792	14,157	13,310
Merchandise	8,518	8,333	41,757	41,297
Minerals	3,574	3,202	17,827	16,197
Coal & coke	8,764	7,931	43,554	40,174
Livestock	147	113	754	576
Total British Railways	31,752	29,881	154,417	147,077
British Railways, C. & D., etc. ...	945	898	4,474	4,418
British Road Services	6,350	6,163	30,217	29,959
Provincial & Scottish Buses	3,601	3,420	16,650	15,643
London Transport—				
Railways	1,371	1,441	6,838	6,690
Buses & coaches	3,182	3,182	14,808	14,105
Trolleybuses & trams	725	798	3,446	3,653
Total London Transport	5,278	5,421	25,092	24,448
Ships	750	759	3,182	3,261
Inland Waterways : Carrying ...	77	66	351	339
Total Passengers	16,922	16,661	79,272	76,748
Total Freight, Parcels & Mails ...	31,831	29,947	155,111	148,397
Inland Waterways : Tolls, etc. ...	109	108	530	524
Docks, Harbours, etc.	1,258	1,260	6,021	6,004
Hotels & Catering				
Hotels	434	435	2,031	2,106
Restaurant cars	232	225	1,020	1,026
Station refreshment rooms ...	595	541	2,868	2,628
Total Hotels & Catering	1,261	1,201	5,919	5,760
TOTAL	51,381	49,177	246,853	237,433

LONDON TRANSPORT

—	Passenger journeys	Inc. or dec. per cent. over 1952	Car miles	Inc. or dec. per cent. over 1952
	000		000	
Railways	45,107	+ 0·1	16,463	− 3·7
Buses & coaches	233,705	+ 2·2	27,199	+ 1·0
Trams & trolleybuses	60,076	− 6·1	5,756	− 9·4
Total	338,888	+ 0·3	49,418	− 1·9

INLAND WATERWAYS

Tonnage of traffic and ton miles

—	Tonnage	Inc. or dec. per cent. over 1952	Ton miles	Inc. or dec. per cent. over 1952
	000		000	
Coal, coke, patent fuel & peat	587	+15·0	8,560	+ 8·0
Liquids in bulk	152	−11·6	3,986	−12·4
General merchandise	278	− 9·5	4,767	− 7·8
Total	1,017	+ 2·8	17,313	− 1·9

BRITISH RAILWAYS

Rolling Stock Position

—	Operating stock	Number under repair	Available operating stock	Serviceable stock in 1952
Locomotives	18,614	3,161	15,453	15,701
Coaching vehicles	57,263	5,429	51,834	52,000
Freight wagons...	1,120,093	83,062	1,037,031	1,043,711

BRITISH RAILWAYS

Passenger Journeys (Month of April, 1953)

Full fares	Excursions, cheap day, etc.	Other descriptions	Early morning and workmen	Season tickets	Total	Inc. or dec. per cent. over 1952
18,130,000	19,550,000	3,462,000	15,542,000	28,838,000	85,522,000	−1·5

BRITISH RAILWAYS

Freight Tonnage Originating and Estimated Ton-Miles (Period No. 5)

—	Merchandise	Minerals	Coal & coke	Livestock	Total	Inc. or dec. per cent. over 1952
	000	000	000	000	000	
Tons originating ...	3,845	5,044	14,173	64	23,126	+3·4
Ton-miles	540,137*	421,575	867,595	—	1,829,307	+3·3

* Includes livestock

BRITISH RAILWAYS (Period No. 5)

—	Total steam coaching train-miles	Total electric coaching train-miles	Total freight train-miles	Freight train-miles per train engine-hour	Net ton-miles per total engine-hour	Locomotive coal consumption	
						Total tons	Lb. per engine-mile
1953	13,828,000	3,752,000	11,308,000	9·04	644	997,000	60·6
1952	13,648,000	3,753,000	11,121,000	9·05	625	985,000	60·3

B.T.C. Passenger Charges Scheme

Draft proposals confirmed with certain amendments by Transport Tribunal

The Transport Tribunal published on July 21 its Order of July 20 authorising increases in fares on the passenger services of London Transport and the Railway Executive which are in accordance with the proposals submitted by the British Transport Commission, except that the scales for the early morning fares for short journeys have been slightly modified. The scheme as originally submitted on January 5 was dealt with in detail in our January 9 issue.

The British Transport Commission proposes to introduce the new charges, embodied in the British Transport Commission (Passenger) Charges Scheme, 1953, on Sunday, August 16.

Increases in passenger fares, under the Order of July 20, will be as follows:—

London Transport and London Tilbury & Southend Line

Ordinary Fares
3d. and 8d. single fares to be increased by ½d.
6d., 9d., and higher single fares to be increased by 1d.
Green Line coach single fares to be increased by 1d.

Early Morning Fares
Early morning single fares (road) to be increased by 1d. for journeys over four miles.
Early morning return fares (rail) to be increased by 1d. for journeys of four and five miles and by 2d. for longer journeys.

Rail Season Tickets
Weekly to be increased by not more than 9d.
Monthly to be increased by 2s.
Three-monthly to be increased by not more than 5s. 6d.

There will be no change in the 2d. minimum and the 5d. single fares, early morning single fares (road) up to four miles, early morning return fares (rail) up to three miles, and fare stages on road services.

British Railways

Day return fares on British Railways (other than the L.T. & S. line) in the London Area will continue to be exactly twice the London Transport single fare; that is to say the increase on any individual fare will nowhere be more than 2d. on the return journey.

Early morning fares and season tickets on British Railways throughout the country will be increased as on London Transport rail services. There will be no change in holiday fares. Ordinary fares on British Railways for both single and return journeys are not affected by the scheme.

A memorandum giving the Transport Tribunal's conclusions on the evidence presented at the public inquiry into the draft scheme of January 5 was also published on July 21. Summarising these conclusions, the memorandum states London Area services in "Y" year at the present level of fares would be running at a loss of little less than £5 million a year; that the modified scheme now published would produce additional revenue of the order of £5.6 million, and that the difference of some £0.6 million between this additional revenue and the amount of the prospective deficit was no more than was reasonably necessary to provide for possible errors in the forward estimates and minor contingencies. Both documents are the subject of an editorial this week.

Waterways Research Laboratory

Opening of new establishment at Southall

Lord Hurcomb, Chairman of the British Transport Commission, on July 24 opened the new hydraulic research laboratory of the Docks & Inland Waterways Executive at Southall. The laboratory will deal with problems not covered hitherto by the existing research establishments of the British Transport Commission and will collaborate with similar departments of several outside organisations. The Executive's Research Department was established in 1950 to promote research on hydraulic and marine engineering questions.

Lord Hurcombe, who was introduced by Sir Reginald Hill, Chairman of the Docks & Inland Waterways Executive, said that some of the immediate problems before the laboratory were concerned with engineering design of lock gates, embankments, and waterways craft, whilst it would also supplement the work of other B.T.C. research departments in connection with investigating methods for preventing the corrosion of metals in sea water by electrical means. He emphasised the valuable results that could arise from exchange of ideas between different laboratories; for example if radar was used for guiding ships, it was only natural that they should consider finding a way of applying these new aids to the movement of wagons in marshalling yards, in which fogs occurred just as they did at sea.

After the opening, visitors inspected some of the activities of the laboratory. A demonstration was given of a method for temporarily calming waves during rough weather by the injection of compressed air. This system was tested experimentally during repairs to a gate of the Dover train ferry dock at the end of 1952 and a 1-in. to the foot model of the dock entrance has been built in the laboratory so that the effects observed at Dover can be studied in detail.

Other types of research seen in progress at the laboratory cover investigations of silting at locks, a study of the effect of power station cooling water on canal temperature and fog formation, and investigation of hull design for barges to minimise resistances to propulsion and erosion of canal banks.

At the end of the demonstrations, visitors were taken for a short cruise on the Grand Union Canal, traversing part of a reach which dates from 1798.

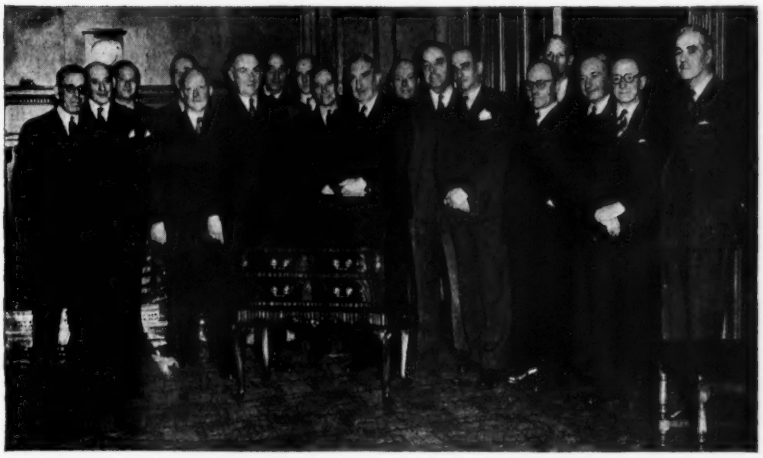
Among those who attended the opening of the laboratory were:—

British Transport Commission: Sir John Benstead, Mr. F. A. Pope, Sir William V. Wood, (Members); Mr. C. C. Inglis (Chief Research Officer); Mr. J. H. Brebner (Chief Public Relations & Publicity Officer).

Railway Executive: Mr. J. C. L. Train (Member), Mr. T. M. Herbert (Director of Research).

London Transport Executive: Mr. John Cliff (Deputy Chairman).

Presentation to Mr. T. H. Moffat



Officers of the Scottish Region after the presentation to Mr. T. H. Moffat, Deputy Chief Regional Officer, on his retirement. Mr. T. F. Cameron, Chief Regional Officer, is in the centre, and Mr. Moffat sixth from the left

MAIDSTONE & DISTRICT MOTOR SERVICES, LIMITED.—At the annual general meeting of Maidstone & District Motor Services Limited, held on July 14, Mr. R. P. Beddow, Chairman, who presided, said that the year had been far less successful than many preceding years. The tax they had to pay on the fuel oil used in their buses was over 200 per cent. Although the trading revenue of the three companies had increased, the number of passengers carried had fallen by 12,500,000 during the past two years. Unless sufficient additional revenue was obtained or there was a sufficient reduction in the cost of weighty elements outside their direct control, they would be compelled to curtail unremunerative services.

International Union of Railways

Annual meetings of the committees in Naples

The annual meetings of the Committees of the International Union of Railways, which were held this year, on the invitation of the Italian State Railways, in Naples, from May 6 to 21, were attended by some 200 delegates representing the majority of the European railway administrations. There were also representatives of the two special U.I.C. Organisations, the Information Centre of European Railways (C.I.C.E.) and the Office for Research Experiments (O.R.E.), as well as of the London Transport Executive and the Compagnie Internationale des Wagons-Lits (both Associate Members) and of the several international railway organisations.

The most important of the questions dealt with by the First (Passenger Traffic) Committee, of which Mr. R. H. Hacker, Chief Officer (Continental), Railway Executive, is Chairman, concerned the proposed simplification of international passenger and baggage tariffs, and the possible creation of an international pool of a new type of passenger vehicle. The joint discussions with other committees included adoption of two classes of accommodation.

Two working parties were formed to consider future policy on sleeping and reclining berths on night services, and the use of diesel trains.

International Tariff for Part-Load Traffic

An equally extensive list of subjects was discussed by the second (Goods Traffic) Committee, which is presided over by Dr. H. Dirlewanger, Chef du Service Commercial des Marchandises, Swiss Federal Railways. They included the creation of a "European" tariff for part-load traffic.

The Third (Finance, Accounts and Statistics) Committee, under the chairmanship of Mr. E. E. J. H. Desorgher, Directeur du Service des Finances, Belgian National Railways, dealt with a wide variety of subjects, including the regulations of the Brussels Central Clearing House, the centralisation in one single office of the audit of international goods traffic, and standardisation of statistics.

The questions examined by the Fourth (Operating) Committee, which is presided over by Mr. M. Cirillo, Capo del Servizio Movimiento, Italian State Railways, included the recent extension of the "Europ" wagon pool and the introduction of a similar arrangement to cover sheets.

The Fifth (Technical Questions) Committee, under the chairmanship of Mr. Parmantier, Directeur du Matériel et de la Traction, French National Railways, discussed various electrical problems, also the interchangeability of spare parts and other rolling stock questions, and production of a vocabulary, in the principal languages, of signalling terms.

The German Federal Railway provides the Chairman of the Sixth (General Studies) Committee in the person of Dr. Haustein, Ministerialrat. Three principal questions were examined concerning the possibilities of capital investment of the various means of transport, the internal organisation of the railways and the obligations of a public nature placed on them.

Exchange of Documentation

The Special Committee responsible for facilitating the exchange of documentation between the various railways is presided over by Mr. C. E. R. Sherrington, Director of the Research Information Division, British Transport Commission. The questions examined included the preparation of a dictionary of technical railway terms, the Documentation Bulletin of the U.I.C. and the exchange of railway films.

The British delegates included Messrs. F. R. Stockdill, T. R. Hawkes, A. C. B. Pickford, J. A. Broughall, T. W. Brown, J. S. C. Campbell, C. A. Gammon, E. G. Brentnall, H. J. Bourn, L. S. J. Keeys and W. B. Addinall (with members of the Continental Secretariat) of the Railway Executive or its Regions, and Mr. A. W. Manser of London Transport.

Parliamentary Notes

Membership of B.T.C.

Mr. Alan Lennox-Boyd (Minister of Transport) in a written reply to Mr. W. T. Proctor (Eccles—Lab.) on July 17 stated that he could not yet announce the names of the persons chosen to act upon the B.T.C. for the new period of office of the Commission. He said that he had the matter under urgent consideration.

New London Tube

On the motion for the adjournment on July 8, Mr. G. B. Finlay (Epping—C.) raised the question of congestion on the Central London Line.

Mr. Gurney Braithwaite (Parliamentary Secretary, Ministry of Transport) said that examination of the London Plan of the working party by the Ministries of Transport & Housing, with the B.T.C., had led to general agreement that the key to easing pressure lay in the building of a new cross-London tube from Walthamstow, via Kings Cross, to Victoria, with extension to the south west. The Commission had asked that the tube should be accepted as the next major work to be undertaken in the London area, and the matter was still under consideration by the various ministries concerned.

Passenger Transport in North London

On the motion for the adjournment of the House of Commons on July 14, Mr. Ernest Davies (Enfield E.—Lab.) criticised passenger transport to and from Tottenham, Edmonton, and Enfield, including Eastern Region steam suburban services, which he said were an inheritance from the privately-owned railways. He advocated electrification of steam services rather than construction of a tube, the cost of which would be prohibitive. They should electrify from Liverpool Street to Chingford and Enfield Town also the Churchbury Loop, and eventually the Cambridge main line via Enfield Lock.

More steel now was available, he added, and presumably more funds for capital investment. The labour and other resources now used on the Pennine electrification should be used when that project was finished. The needs of North London were greater than the places served by the Tilbury Line, as far as electrification was concerned. They should not wait for the planned tube, Route "C," but start electrifying Eastern Region suburban lines now.

Mr. Gurney Braithwaite (Parliamentary Secretary to the Ministry of Transport) said this area received the lion's share of electrification between 1935 and 1940 when the Central London tube was extended. The B.T.C. had reported that electrification of the Enfield and Chingford lines could only be contemplated as an accompaniment to Route "C." There was also the danger of congestion at Liverpool Street, especially on the Central Line.

Electrification of the Churchbury Loop, he went on, could only accompany that of the Cambridge main line; it would not help to work the loop by steam before electrifying it. The B.T.C. had these matters under constant review. Capital cost was the greatest obstacle to providing adequate transport facilities.

Travel in the Highlands

Mr. H. R. Mackeson (Secretary for Overseas Trade), replying on July 14 to criticisms of restricted sleeping berth and other travel facilities to and from the Highlands of Scotland, said he proposed to ask the British Travel & Holidays Association to look into the matter and make any necessary representation to the B.T.C.

Tapering Transport Charges

Mr. John Maclay (Renfrew W.—Nat. Lib.-Con.) said in the Scottish affairs debate on July 15 that with the forthcoming increased autonomy for transport in Scotland, the special requirements of that country must be provided for. One of these was application of the taper principle to transport charges. The matter should be referred to the Transport Tribunal as one of principle.

Mr. Thomas Steele (Dumbartonshire W. —Lab.) said the railways had to pay their way, and if there was a tapered charge the money had to be found somewhere else. He agreed that the question of charges was important, but they had created a difficulty by denationalising long-distance road haulage. If they had any system which decreased the cost on long-distance haulage on the railways to help the areas in the North, additional cost must be borne by the traffic carried over the shorter distances, and it was that very traffic which was being attacked by the road haulage industry.

British Railways Ships

Mr. Alan Lennox-Boyd (Minister of Transport) on July 13, in answer to criticisms of the radio communications of British Railways ships, explained the arrangements for communication between ships and aircraft when necessary. The *Princess Victoria*, he added, was fitted with radiotelegraph equipment and carried a qualified radio officer in accordance with statutory safety requirements. He explained the superiority of radiotelegraphy over radiotelephony for ships' safety purposes. There was, he stated, no evidence that radiotelephone equipment would have helped in the case of the *Princess Victoria*. These matters, however, would be included in the forthcoming examination of rescue arrangements.

Supplementing Railway Pensions

Mr. Douglas Houghton (Sowerby—Lab.) on July 10 inquired whether the Minister of Transport was aware that the scheme announced by the B.T.C. for supplementing the pensions of certain retired salaried staff of British Railways was much less favourable than that applied to retired public servants under the Pensions (Increase) Acts, 1944-52; and whether he would ask the Commission to bring

the scheme into line with that approved by Parliament for central and local government pensioners.

Mr. Alan Lennox-Boyd (Minister of Transport) wrote in reply that he knew the Commission scheme for supplementing the pensions of certain of their pensioners did not go as far as the increases given by the Pensions (Increase) Acts. As explained on March 17, he must have regard to the Commission's statutory duty to make ends meet, and in present financial conditions the scheme was the most that could be expected of them.

Nigerian Railway Locomotives

Mr. James Johnson (Rugby—Lab.) on July 8 asked the Secretary of State for the Colonies what were the numbers of main-line locomotives on the Nigerian Railway; how many were over 10 years old; how many awaiting repair; and how many awaiting writing off.

Mr. Oliver Lyttelton (Secretary of State for the Colonies) replied: 190 on June 27, of which 80 were over ten years old. Twenty-nine were under repair in workshops; 41 were awaiting repairs; and 9 were awaiting write off.

Mr. Johnson asked if the Minister would agree that too many old locomotives were spending a long time in the shops at Ebute Metta and that the chief cause of that was lack of spare parts.

Mr. Lyttelton said that the situation of the Nigerian Railway which had been inherited was extremely bad and it was difficult to put it right in a hurry, but they had done everything they could both to speed up the delivery of new locomotives and to increase the stock of spare parts. There was great room for improvement, particularly in the workshops, and they had tried to bring it about by the temporary employment of more expatriate technicians.

Staff & Labour Matters

N.U.R. Annual General Meeting

Two further resolutions which were discussed at the annual general meeting of the N.U.R. at Paignton last week.

Cost of Living

One resolution "views with concern" the upward trend in the cost of living, despite the fall in import prices, and asserts that the continuation by the Government of a policy which "depresses the value of real wages and creates unjustifiable inequalities in living standards is not conducive to increased production and must of necessity compel trade union action to ease the burden of rising costs."

In discussing the resolution it was stated that the cost of living index had risen from 125 in 1951 to 141 per cent in 1953. Taking profits in the year 1938 as 100 per cent, it was said that the percentage of company profits in the first quarter of 1953 had risen to 292 per cent. That showed an incentive to some people but not to the working class.

Pensions for Railwaymen

The following resolution and the amendment were both defeated after the General Secretary, Mr. J. S. Campbell, had given certain details of the proposed pension scheme for railwaymen:

"*Resolution:* This meeting instructs the National Executive Committee to insist that any agreement concluded on pensions must include a provision of entitlement to a pension for all employees of the B.T.C. on retirement. Pension should be a percentage of the weekly wage to avoid loss through devaluation and should not be based on higher contribution. Any scheme must be referred to the branches for their acceptance or rejection."

"*Amendment:* This meeting instructs the National Executive Committee to accept immediately the most advantageous pension scheme possible to obtain, thus avoiding further delay and loss to our members."

Contracts & Tenders

British Railways, Western Region, have placed the following contracts:—

H. D. Bower, Slough: restoration of the Road Motor Engineer's Depot, Slough.

E. C. & J. Keay Limited, Henley-in-Arden: supply of steelwork for mechanisation of Gloucester Goods Shed.

D. George Lewis & Son, Carmarthen: erection of signalbox at Llandilo.

Lucas Furnaces Limited, Birmingham: supply and erection of one gas-fired case-hardening furnace at Wolverhampton (Stafford Road) Locomotive Depot.

Parsons & Morrin Limited, Birmingham: construction of relay house at Birmingham Snow Hill.

Scott Electric Vehicles Limited, Kidderminster: supply of eight Scott electric trucks, eight spare batteries and eight Westinghouse rectifiers for Paddington Goods Station.

Nott, Brodie & Co. Ltd., Bristol: construction of new abutment and other work, and alterations and additions to be carried out to the sub-structure, Benham Bridge, Newbury.

Weatherley Oilgear Limited, Biggleswade: supply of one hydraulic keyseating machine for "AW" Shop Swindon Locomotive Works.

Wilson Lovatt & Sons Ltd., Wolverhampton: reconstruction of the signalbox at Kidderminster Junction.

Stone & Co. (Bristol) Ltd., Bristol: carrying out improvements to station buildings at Cheltenham Spa (St. James).

Adlon Erectors Limited, London, S.W.20: carrying out repairs to the roofs of Carriage Sheds Nos. 1, 2, 3 and 4 at Old Oak Common.

British Railways, North Eastern Region, have placed the following contracts:—

F. & J. Watkinson, Dudley Hill, Bradford: reconstruction of hot ash pit, Bradford Hammerton Street Motive Power Depot.

E. Davis (Fixers) Limited, York: extension of wheel tyring shop, Darlington North Road Locomotive Works.

Wellerman Bros. Ltd., Sheffield: rebuilding of north embankment and wing walls and repairs to brickwork of piers, Langley Moor Viaduct, Bridge No. 185.

British Railways, Eastern Region, have placed the following contracts:—

Tersons Limited, Dollis Park, Finchley, London, N.3: provision of drainage between Chelmsford and Hatfield Peverel; also renewal of drainage and reballasting of permanent way between Yaxley and Peterborough North.

W. & C. French Limited, Buckhurst Hill, Essex: diversion of Loxford Water at Barking, and construction of a concrete watercourse, a sewage pumping station, drainage, fencing, and so on.

The Egyptian State Railways have placed orders for 18 bogie flat wagons of 75-ton capacity and two 75-ton trolley wagons with Baume et Marpent, S.A., Morlanwelz, Belgium.

Les Ateliers Métallurgiques, S.A., Nivelles, Belgium, has received an order from the International Sleeping Car Company for 25 second class sleeping cars of stainless steel on the Budd system, a licence for which has recently been taken out by this builder.

The High Commissioner for India invites tenders for metre-gauge and narrow-gauge locomotive boilers. Details appear under Official Notices on page 111.

H.M. Consul General at Lourenço Marques has notified the Board of Trade Commercial Relations & Export Department of a call for tenders issued by the Directorate of Ports, Railways & Transports Department, Lourenço Marques, for supply of two superheated 2-8-2 locomotives and spare parts.

The locomotives are to be of the two-cylinder type with a tractive effort of 13,000 kg. at 85 per cent b.p., the boiler pressure being 14 kg. per square cm. and the driving wheel dia. being 1·219 metres. The track gauge is 3 ft. 6 in., the maximum permissible axle load is 13,700 kg. and the minimum radius of curves which the locomotives must be capable of negotiating is 90 metres. The locomotives must have either bar frames or cast steel frames. The tender must have a capacity for 20,000 litres of water and 8,000 kg. of fuel. The fuel to be used is bituminous coal of about 6,300 calories per kilogramme and 12-14 per cent ash or wood.

Tenders should reach the Directorate of Services, Ports, Railways & Transports Department, Lourenço Marques, by 3 p.m. on September 28.

A copy of the tender documents, in Portuguese, is available for inspection in Room 6176 of the Commercial Relations & Exports Department by interested United Kingdom manufacturers. A further copy is available on loan. Reference CRE/23807/53 should be quoted.

United Kingdom manufacturers are reminded that they cannot submit tenders direct but only through firms established in Mozambique and whose names are registered with the Stores Department of the Treasury, (Almoxarifado de Fazenda), Lourenço Marques.

The Director General of Supplies & Disposals, Railway Stores Directorate, New Delhi, is inviting tenders for:—

Four connecting rods right and left for "BP" and new "P" class locomotives.

32 eccentric cranks for "B" and "P" class locomotives.

Tenders are to be submitted to the Director General of Industries & Supplies, Shahjahan Road (Section SRI), New Delhi, quoting reference SRI/16283-D/II, and will be received up to 10 a.m. on July 27.

HEAVY TRAFFIC FOR GLASGOW FAIR HOLIDAYS.—Some 200 special trains were arranged by the Scottish and other Regions concerned to move Glasgow Fair holiday traffic last weekend. The low fare resulted in 5,000 passengers from Glasgow to London on the Friday evening, when the "Starlight Special" ran in twelve portions. A through train was run from Glasgow Buchanan Street to Dover Marine for 500 passengers to Ostend. A further eight relief trains to London were arranged for July 17 and 18, and over 30 specials to Blackpool, Manchester, the Midlands of England, York, and Scarborough.

Notes and News

Peter Lind & Co. Ltd.: London Address.—Peter Lind & Co. Ltd. have returned to their prewar address at Romney House, Tufton Street, Westminster, London, S.W.1. Telephone, Abbey 7361 (10 lines).

Rolling Stock Draughtsmen Required.—The Gloucester Railway Carriage & Wagon Co. Ltd., Gloucester, require the services of experienced rolling stock draughtsmen. See Official Notices on page 111.

British Insulated Callender's Cables Limited: Extra Office.—With effect from August 1, the address of the Exeter branch office of British Insulated Callender's Cables Limited will be changed to: 40, Whipton Village Road, Whipton, Exeter. The telephone number will be Exeter 67308.

London Transport: Vacancy for an Assistant.—Applications are invited for the post of assistant required in the technical investigation section of London Transport, to collate data and technical information relating to signals and civil engineering work and to assist with civil engineering developments. See Official Notices on page 111.

London Transport Inquiry.—The Committee of Inquiry into London Transport, whose appointment was announced by the Minister of Transport in the House of Commons on July 8, has invited interested organisations or persons to submit evidence. Those wishing to do so are asked to send it, in writing in the first instance, as soon as possible and not later than October 31, to the Secretary of the committee, Mr. B. E. Bellamy, at the Ministry of Transport, Berkeley Square House, London, W.1. The committee's terms of reference are: "To inquire into the conduct of the undertaking carried on by the London Transport Executive (excluding any questions relating to charges) with a view to ascertaining what practical measures can be taken by the British Transport Commission and the Executive in order to secure greater efficiency or economy and to report."

Engineer Estimator Required.—Applications are invited for the post of engineer estimator or surveyor estimator, experienced in the preparation of civil engineering tenders, preferably with a knowledge of railway construction, required by Eagre Construction Co. Ltd., Scunthorpe, Lincs. See Official Notices on page 111.

Superintendent of Permanent Way Required.—A vacancy exists in the chief engineer's department of an iron and steel works in North Lincolnshire for a superintendent of permanent way. Applicants must have a thorough knowledge of the subject, particularly in the layout and maintenance of marshalling yards and sidings. See Official Notices on page 111.

Carbon Components and Refractories.—A wide variety of carbon materials, including chemical resisting components refractories, graphite jointing compounds will be exhibited by the Morgan Crucible Co. Ltd. at the Engineering & Marine Exhibition, to be held at Olympia, London, on September 3-17. These will include Carbinert impervious carbon and graphite, and Carblox refractories and chemical resisting tiles. The refractory section will include a wide diversity of shapes and materials, a prominent feature of which will be the Morgan M.R.1 super-duty firebrick, for use in critical positions of furnaces, kilns and so on subject to high temperature and slag attack, and the Morgan low storage insulating refractory, M.I.28, for hot-face lining in furnaces. Sintered metal products will be represented by a display of Reservoil oil-retaining bearings, and Morganite sintered-metal clutch linings for heavy-duty prime-movers, machine tools, coal cutters, electrical and mechanical starters, and so on.

British Railways Coal and Steel Carryings.—Forwardings by British Railways of deep-mine and opencast coal in the week ended 6.0 a.m. on July 20 amounted to 2,859,200 tons, including 254,640 tons carried at the weekend. During the week ended July 11, 208,115 tons of iron and steel from the principal steel works and 308,200 tons of iron ore were conveyed.

Record Travel by "Starlight Special."—Holiday travel by the "Starlight Special" trains reached a new peak on Friday and Saturday last, when over 17,000 passengers were carried between London and Scotland in 45 trains. Altogether 232,598 passengers left the principal London termini on Saturday in 553 long-distance trains, compared with 225,010 passengers in 535 trains on the corresponding Saturday last year.

Standardisation of Diesel Locomotives in Europe.—The meeting held in Utrecht last May under the auspices of the Office de Recherches et d'Essais to review and discuss the standardisation of diesel locomotives on European railways and rationalisation of their manufacture is being followed by negotiations between the railway administrations and other bodies concerned. Further meetings are to be held in the near future.

Railway Students' Association. — The success of last year's River Thames cruise has prompted the Railway Students' Association, London School of Economics & Political Science, to make arrangements with the Port of London Authority for accommodation to be reserved on a motor launch on Saturday, September 12, for a Thames cruise. The launch will leave Tower Pier at 2.30 p.m. and cruise down the river for an inspection of the King George V and Royal Albert Docks, arriving back about 6.15 p.m.

S.M.D. Engineers Limited.—Structural & Mechanical Development Engineers Limited, of 2, Buckingham Avenue, Slough, Bucks, announces that the company name has been changed to S.M.D. Engineers Limited. This is the construction company of the Almin Group, of which the parent company is Almin Limited, of Farnham Royal, Bucks. The company specialises in aluminium construction and prefabrication. Its products include the aluminium enclosed telescopic gangways for the Ocean Terminal at Southampton. The telegraphic address also has been altered to Alframe, Slough.

G. A. Harvey & Co. (London) Ltd. Exhibits at Olympia.—Much of the specialised industrial equipment manufactured by G. A. Harvey & Co. (London) Ltd., which includes fractionating columns weighing 220 tons, gas oil separators made from mild steel 3 in. thick × 4 ft. 6 in. dia. × 170 ft. long, and turbine casing of 28 tons weight, will be illustrated by photographs at the forthcoming Engineering & Marine Exhibition at Olympia. Exhibits will include a wide range of Harvey steel office and factory equipment; Harco perforated metals for sifting,

H.M. The Queen in Northern Ireland

Miss Helen Howden, daughter of Mr. G. B. Howden, Chairman of the Ulster Transport Authority, presenting a bouquet to H.M. The Queen before the Royal party entrained at Lisburn on July 3. Mr. Howden is in the foreground third from left

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 *inclusive or a woman aged* 18-59 *inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order,* 1952.

GLOUCESTER RAILWAY CARRIAGE & WAGON CO. LTD., Gloucester, require the services of experienced rolling-stock Draughtsmen. Five-day week. Staff pension scheme. Apply, stating age, details of experience and salary required, to CHIEF DESIGNER.

LONDON TRANSPORT require assistant, Technical Investigation section, to collate test data and technical information relating to signals and civil engineering work and to assist with civil engineering developments. A knowledge of thermodynamics is desirable. Young graduates seeking first employment considered. Salary £324 at 21 rising to £579 subject to age and satisfactory service, with additional payments for certain recognised qualifications; medical exam.; contributory superannuation scheme after probation. Applications within 14 days to STAFF OFFICER (F/EV 243), London Transport, 55, Broadway, S.W.1. For acknowledgment enclose addressed envelope.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway. 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10*s.* 6*d.*—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE High Commissioner for India invites tenders for the supply of LOCOMOTIVE BOILERS, Narrow Gauge "BS" class, 7 Nos. Forms of tender may be obtained from the Director-General India Store Department, 32/44 Edgware Road, London, W.2, at a fee of 10s., which is not returnable. Tenders are to be delivered by 2 p.m. on Friday, 18th September, 1953, and are to remain open for acceptance for 60 days from this date. Please quote reference DO.2491/52 in your application.

THE High Commissioner for India invites tenders for the supply of LOCOMOTIVE BOILERS, Metre Gauge "N" and "P2" class, 3 Nos. Forms of tender may be obtained from the Director-General India Store Department, 32/44 Edgware Road, London, W.2, at a fee of 10s., which is not returnable. Tenders are to be delivered by 2 p.m. on Friday, 18th September, 1953, and are to remain open for acceptance for 60 days from this date. Please quote reference DO.4125/52 in your application.

A VACANCY exists in the Chief Engineer's Dept. of a large integrated Iron & Steel Works in North Lincolnshire for a Superintendent of Permanent Ways. Applicants must have a thorough knowledge of the subject particularly in the layout and maintenance of marshalling yards and sidings. Ability to prepare own scale drawings, quantities and estimates; maintenance of stock records and experience in handling a substantial labour force are essential attributes. Applications should include details of age, training, qualifications, experience and salary required to Box 901, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

BEARINGS: 250 brand new Timken taper roller bearings 598/592 for sale, new stock, surplus to requirements. Box 905, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

DESIGNERS wanted with practical experience of Railway Rolling Stock. Used to calculations. Knowledge of diesel railcars would be an advantage. Applications in writing to: A.E.C. LIMITED, Staff Records Office, Windmill Lane, Southall, Middlesex, giving age, experience and salary required.

THE PERUVIAN CORPORATION have the following vacancies on the railways in Peru:—Central Railway. ACCOUNTANT (Traffic Auditor). About 30 years of age, preferably single with general auditing and railway accounting experience. Northern Railways. DIESEL ENGINEER with practical experience on diesel locomotives and railcars and workshop management. Southern Railway. ASSISTANT CHIEF STOREKEEPER —an experienced Railway Storekeeper with a knowledge of Spanish essential. A knowledge of the Spanish Language is preferable in all these appointments or willingness to learn within 6 months. Apply: SECRETARY, 144, Leadenhall Street, London, E.C.3.

BOUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25*s.* per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

filtering and grading coal, chemicals, stone and so on; together with various gauges and meshes of Harco woven wire cloth.

English Electric Debenture Offer.—The £2,500,000 of 4½ per cent debenture stock 1972/77 of the English Electric Co. Ltd., which was offered for sale recently by Lazard Bros. & Co. Ltd., was oversubscribed more than 20 times. Applications from employees of the company and holders of the company's debenture, preference, and ordinary stocks, aggregated over £300,000.

Charles Roberts & Co. Ltd.—The group profit of Charles Roberts & Co. Ltd. for 1952-53 increased by £40,443 to £352,953, while the final figure of net profit is £14,682 higher at £111,584. A final dividend of 10 per cent will be paid, bringing the total distribution to 20 per cent as in the previous year. A distribution of £400,000 is also recommended on March 31 next year, which with a previous special capital bonus of £600,000 arising from liquidation of a wholly-owned subsidiary, will make the total bonus distributed equivalent to 8s. 4d. for each 5s. unit.

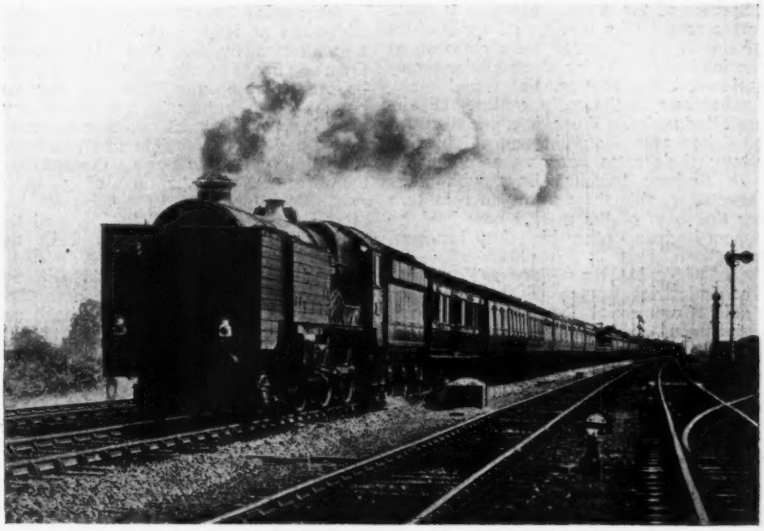
B.C.D.R. Lines to be Abandoned.—The Northern Ireland Minister of Commerce, Mr. W. V. McCleery, has made an Order authorising the Ulster Transport Authority to abandon all sections of the former Belfast & County Down Railway that had already been discontinued. The sections referred to in the Order are those between Ballynahinch Junction and Ballynahinch; between Downpatrick and Ardglass; between Comber and Newcastle; and between Belfast and Donaghadee. On December 15, 1949, the Ulster Transport Tribunal announced its decision authorising the U.T.A. to discontinue all services on the B.C.D.R. except on the Bangor line.

G.N.R. Locomotives to be Brought Out of York Museum.—Two former G.N.R. locomotives will be brought out of retirement in York Museum in September to commemorate the centenary of the transfer in 1853 of the main locomotive plant of the G.N.R. from Boston to Doncaster. One is No. 990 *Henry Oakley*, the first Atlantic in this country, and the other No. 251, the first of the large-boilered Atlantics, which made its public inaugural run in September, 1903. To recall these events, it is proposed to run a special train headed by the two retired engines from Kings Cross to Doncaster and back on September 20, and from Leeds and Doncaster to London and back the following Sunday. Both trains will be known as the "Plant Centenarian" and will have the two Atlantics on the outward journeys only. The return trains will be hauled by the streamlined Pacific No. 60014, *Silver Link*, the locomotive which set up four world speed records in 1935.

Controlled Road Test of Western Region "King" Class Engine.—The illustration below shows Western Region "King" class 4-6-0 locomotive No. 6001 *King Edward VII* on the down run on the controlled road test on July 2. The train is passing Marston Yard at 60 m.p.h. on the 24-mile rise to Swindon. The load was 25 vehicles, weighing 796 tons, including the Western Region dynamometer car.

C.S.E.U. Wage Claim.—The Confederation of Shipbuilding & Engineering Unions on July 21 presented its claim for a 15 per cent increase in the wages of all adult male workers to the Engineering & Allied Employers' National Federation. The employers undertook to consider the claim and to arrange for a further conference.

Exhibits of William Asquith Limited at Brussels.—The Third European Machine Tool Exhibition will be held in Brussels from September 4 to 13 inclusive, and William Asquith Limited exhibits will include a group of machines representative of the company's comprehensive range of radial drills. The display will include 10 ft. O.D.4., and 6 ft. O.D.3. radials with capacities for drilling from the solid steel up to 3½ in. diameter and 3 in.



Western Region "King" class engine No. 6001 *"King Edward VII" on a controlled road test on July* 2 *with a load of* 796 *tons*

respectively. In the O.D.4., provision is made for tap leads by means of slip gears from 6 to 40 t.p.i., metric leads from 0·5 mm. to 4 mm. pitch. Other exhibits will include the 3-ft. 6-in. N.L.D. type radial with 12 spindle speeds, 2,500 to 60 r.p.m.; and the 7-ft. E.G.C. structural type (non-elevating arm) radial drill, mounted on a baseplate, with 12 spindle speeds ranging from 830 to 31 r.p.m.

Vickers Limited Dividends.—At a meeting of the Board of Directors of Vickers Limited held on July 16 the following interim dividends in respect of the year 1953 were declared: 2½ per cent actual, less income tax, on the Preferred 5 per cent stock; 2½ per cent actual, less income tax, on the 5 per cent preference stock; £2 2s. 6d. net per £100 stock on the cumulative preference stock. Payment will be made on August 21.

Liége International Fair.—Details have been given of the specialised exhibitions to be held at the Liége International Fair from April 24 to May next year. These will cover the gasification of coal, lubricating products and material, navigation and civil engineering material for waterways, heat treatment of metals, and water treatment. In connection with these subjects a wide range of specialised products, machinery, and appliances will be demonstrated.

Wagon Repairs Limited.—A second interim ordinary dividend of 10 per cent less tax, as in the previous year, has been declared by Wagon Repairs Limited and will make a total distribution for the year to March 31 last of 20 per cent, again as in the preceding year. It is stated that at a later date a payment of 2d. per 5s. unit, tax free, will be recommended out of the surplus arising from liquidation of two subsidiaries some years ago.

Progress of Tin Research.—The annual report of the Tin Research Institute for 1952 states that the various groups of tin producers who provide the funds have unanimously agreed to increase their contributions by 50 per cent in order to strengthen the institute's staff and especially to increase its free technical services to industry in the chief tin-consuming countries of the world. Mention is made in the report of a number of applications of tin which originated from research at the institute. Tin-zinc electroplate, a corrosion-resistant coating, has found many further uses in the radio, motor, and aircraft industries. Work is going forward on improved aluminium-tin bearing alloys; their extra hardness as compared with tin-base babbitt alloys will, it is expected, enable these alloys to recapture for tin some of the market now held by copper-lead and other high-duty bearings.

Board of Trade, Export Services Branch.—The Industries Branch of the Board of Trade, Commercial Relations & Exports Department, hitherto accommodated at Horse Guards Avenue, Whitehall, London, S.W.1, has been moved to Lacon House, Theobalds Road, London, W.C.1 (telephone: Chancery 4411). Its title has been changed to the Board of Trade, Export Services Branch, and continues to perform the same functions as before. These are to help United Kingdom manufacturers to find representatives or agents abroad; to assist British business men going abroad; to provide information on overseas markets and advise on opportunities and methods of exporting their goods; to give information on tariff and import licensing regulations abroad and other information of use to exporters, through the medium of the Special Register Information Service.

Murex Limited.—Preliminary figures (subject to audit) show a decline in the group profit of Murex Limited from £659,000 to £393,000. A final ordinary dividend of 9 per cent recommended by the directors would bring the total distribution for the year to April 30 last up to 15 per cent, thus maintaining the dividend paid for the previous year on £2,000,000 of ordinary stock. The £200,000 of ordinary stock issued for cash last November ranks for the final dividend now recommended.

B & S. Massey Limited.—Preliminary figures in respect of the year to March 31, 1953, show a consolidated trading profit by B. & S. Massey Limited of £215,173 (£233,348 for 1952), which, after deduction of tax £89,038 (£111,738), depreciation £21,985 (£20,577), directors' emoluments and audit fee £14,397 (£14,026) and share issue expenses £1,679 (nil), leaves a consolidated net profit of £88,074 (£87,007). It has been resolved to recommend a final ordinary dividend of 7½ per cent on the capital as increased to £270,052 by the recent free issue of ordinary shares, making a total dividend equivalent to 12½ per cent for the year on the increased ordinary capital. Last year dividends totalling 25 per cent on the £135,026 ordinary capital were paid.

Forthcoming Meetings

July 28 (*Tue.*).—Railway Students' Association. Evening visit to new Carriage Depot at Willesden. Party meet in booking hall, Stonebridge Park, L.M.R., at 5.50 p.m.

Railway Stock Market

Although there was only a moderate volume of business passing in stock markets, the tendency was firm with British Funds slightly higher on balance and many individual features of strength among industrial shares. There were signs that buyers were showing caution, awaiting a clear assessment of latest international developments; on the other hand very little selling was reported. Dealers still seem short of stock, and particularly in the industrial section moderate demand can result in a sharp rise in price.

There is much less talk in the City of prospects of a reduction in the bank rate, though this is still regarded in many quarters as possible by the end of the year. The prevailing tendency is to take the view that markets may develop strong activity in the autumn, though there will be much increased competition from new issues, particularly the big steel issues expected to start in September. The trend in international affairs is bound to have an important influence on sentiment in the market.

Foreign rails have tended to be a little more active, but movements on the whole were small and unimportant.

There was a little selling by tired holders of United of Havana stocks, which were also affected by talk that Mr. Wenner-Gren's offer for the railway, although believed to be around £5,000,000, may not be cash down, but partly a proposed payment in securities which could be redeemed over a period of years. The market expects full details before long or a statement from the directors. At the time of going to press, United of Havana "A" stock has receded to 68, the "B" to 66½, and the second income stock to 23¼, while the consolidated stock was 3⅜.

Canadian Pacifics eased to $46½ with the general trend in dollar stocks. The preference stock was £64¾ and the 4 per cent debentures strengthened to £83½. White Pass & Yukon no-par value shares remained active, but have moved down to $27, with the convertible debentures down to £96½.

Antofagasta ordinary and preference were 9 and 43½ respectively, while the 5 per cent debentures were 66. Manila Railway "A" debentures were 78 and the preference shares 7s. 9d. San Paulo units have changed hands around 6s. 1½d.

Mexican Central "A" debentures were 73¾. Nitrate Rails shares were 20s. 9d. and Taltal Railway shares 15s.

Dorada Railway stock has been active and higher at 51. Brazil Rail bonds were 7, Costa Rica ordinary stock 10, and the 6½ per cent second debentures 60. International of Central America no-par value shares were $15½ and the gold bonds £150. Paraguay Central prior lien debentures were quoted at 16½ and the "A" debentures at 7½.

Among Indian stocks, Barsi were 119 and West of India Portuguese stock 95½.

Emu Bay 4½ per cent debentures were 54½, and Nyasaland 3½ per cent debentures 73½.

Firmness has again ruled among road transport shares, with Southdown at 31s. 6d., West Riding 35s. and Lancashire Transport 51s. 3d., Devon General were quoted at 28s., and Northern General at 28s. 9d., while East Kent were 26s. 3d. and Provincial Traction 4s. shares were 6s. Aldershot & District were 32s., Trent Motor Traction 31s. 3d., Ribble Motor Services 37s. 6d. and Rhondda Transport 26s. 3d., B.E.T. stock has been active in anticipation of the annual meeting, and rose afresh to £580.

The firmer trend in engineering and kindred shares remained in evidence, attention being drawn to the favourable yields and reasonable prospects of dividends being maintained. Guest Keen held their rise to 50s., T. W. Ward were 71s. 6d., Tube Investments strengthened to 57s. 4½d., and Ruston & Hornsby have advanced to 41s. 6d. under the influence of the results and Coronation bonus. Babcock & Wilcox at 63s. 6d. showed firmness. Renold & Coventry Chain eased a little to 34s. 9d.

John Brown have been steady at 35s. 3d. on market expectations that the forthcoming dividend will be kept at 7½ per cent, tax free. George Cohen 5s. shares strengthened to 9s. 1½d. after the results. Vickers were 49s. 9d. awaiting news whether negotiations have started for reacquisition of English Steel. If it is decided to repurchase this and more capital is required, the market assumes that Vickers might make a rights offer of shares to shareholders.

Beyer, Peacock gained a few pence at 33s. 6d., Hurst Nelson were 40s., North British Locomotive 12s. 10½d. and Birmingham Carriage higher at 28s. 1½d. Central Wagon were 67s. 6d. and G.D. Peters 5s. shares 17s. Vulcan Foundry were 20s. 6d., Charles Roberts 5s. shares 16s. 6d., Gloucester Wagon 10s. shares rose to 13s. 9d. and Wagon Repairs 5s. shares were 21s. 6d.